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OF THE

ROYAL BOTANIC GARDENS, PERADENIYA.

EDITED BY

T. PETCH, B.A., B.Sc.

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Effect of Foreign Pollination on *Cycas Rumphii*.

PRELIMINARY OBSERVATIONS.

BY

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Cycas Rumphii is widely distributed in the low-country of Ceylon, where it was supposed to be native. It is met with frequently in private gardens, it forms an ornament to many railway stations, and is not even of rare occurrence on the borders of some jungles. At the present day, however, the dispersal of this species of *Cycas* does not take place by means of seeds, but by the separation of adventitious offshoots that grow on the aerial part of the stem or from just below the surface of the ground. True seeds are to be found nowhere in Ceylon, as far as my information goes.

After travelling to a great extent in the main open tracts in the low-country, it appears to me that no ovules of *Cycas Rumphii* reach their full development along the road that runs from Galle to Chilaw, or in a wide radius round Colombo. On the other hand, I have found an ample supply of large ovules in the Botanic Gardens, Peradeniya, occasional crops in the Botanic Gardens at Henaratgoda, and have obtained also a few from Matara, a small town in the extreme south of Ceylon. But while something like a hundred apparently mature ovules have been examined, not a single one contained even the trace of an embryo. These facts suggested an interesting problem, the solution of which was first attempted at the end of 1914, and a note on the subject was sent to the "Ceylon Antiquary" in June, 1915 (2).

The first idea that suggested itself was to look for male cones of *C. Rumphii* and to try experiments on artificial pollination. But all search was in vain; not a single male plant could be found. Mr. T. Petch, Government Botanist and Mycologist, Peradeniya, whom I then consulted on this point, sent me the following historical information:—"You know, from Trimen's "Flora," that W. Ferguson sent male *Cycas Rumphii* to Thwaites in abundance. I have been arranging

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old correspondence here lately, and I find that Trimen asked Ferguson, in 1883, to find him some more. Under date February 22, 1883, Ferguson wrote: 'The splendid male plants of *Cycas Rumphii* that used to grow near Rock House, Mutwal, are gone, but I'll look one up I sent Thwaites quite a supply from one of them.' On February 24, 1883, he wrote: 'I had a hunt in the Queen's House garden here to-day for the male of *Cycas Rumphii*, with the result that all the plants in it—several—are offshoots from the old female one in a line with Baillie street, and several of them now with their cone-like masses of female flowers just going to expand. They are all from one old plant, but I will hunt up for you in Colombo and as far as Panabokai, 7 miles up the Kelani river.' Apparently he never found a male again."

[Thwaites, in letter to Ferguson, October 15, 1864, wrote: "I put in the box a male scale of *Cycas circinalis*, which you will see is totally different from the Colombo one in this respect. I am very much obliged to you indeed for the male scales of yours, which are in as good a state as need be for examination. It is the *Cycas Rumphii* of Miquel, Fl. Ind. Bat." Another letter, dated October 23, 1864, states: "Thank you for the female inflorescence of *Cycas Rumphii*. It quite corresponds with specimens I got in Reigam Corle. Bennett was certainly bringing 'Coals to Newcastle' in conveying *Cycas* to this Island. That plant at Bagatelle, if it exists, ought to be the same as our Central Province one, I should think." Ferguson's letters to Thwaites are unfortunately not available. The Bennett referred to was J. W. Bennett, who published "A Treatise on the Coconut Tree," "A selection of rare and curious Fruits indigenous to Ceylon," and "Ceylon and its Capabilities." In the last-named work, p. 96, Bennett stated that he had brought two plants of *Cycas circinalis* from the Government Garden, Mauritius, to Ceylon in 1821, one of which was planted at Bagatelle, near Colombo, while the other "was transferred by the late Honourable the Chief Justice, Sir Hardinge Giffard, to the Royal Botanic Garden at Peradeniya, near Kandy, where it flourished as well as in its natural soil." It would appear from this that the introduction of *Cycas Rumphii* cannot be attributed to Bennett, unless he

was mistaken with regard to his species. But it is of interest to note that Rock House, where Ferguson obtained male *C. Rumphii*, was once the residence of Sir Hardinge Giffard. Bennett's statement about the plant transferred to Peradeniya is perhaps only another instance of his characteristic "optimism."—Ed.]

So far then all search has been without any positive result. Further, I did not even find male cones of any of the Cycads in the neighbourhood of Colombo. The fate of the prosperous young ovules that start life in this district is then settled by a rigid law; they lack a stimulus to further growth, and naturally shrivel in course of time, decay, and fall to the ground. A great number of these ovules have been examined at different intervals; not one showed the presence of pollen grains. Frequently, however, they contained spores of fungi, which at a later stage produced a mycelium and caused the decay of the tissues. But, as will be explained later on, the growth of the fungus is consequent upon the lack of vitality in non-pollinated ovules, and not the cause that checks their growth.

However, the growth of ovules of *C. Rumphii* to the full size of mature seeds at Peradeniya and other localities, but without ever producing an embryo, offered a more tempting problem, and one that was likely to yield more interesting results. It could not be a mere question of climatic conditions; for, although Peradeniya is situated at a higher altitude (some 1,600 feet), Matara, for instance, is on the same level as Colombo, and, like the latter place, in the vicinity of the sea. We must therefore look for some more important physiological factor. Now, at Peradeniya, male cones of *Encephalartos* or *Macrozamia* are to be found at practically any season of the year; while quite recently I came across a male cone of *C. circinalis* in the same locality. I was also fortunate enough in finding lately at Henaratgoda a gigantic cone of *C. circinalis* 2 feet 8½ inches high; and I also met with a similar male cone while visiting Matara. It must be noted that the rarity of male cones in the two last localities corresponds with the spasmodic occurrence of fully grown-up ovules in the same places; at Peradeniya, on the other hand, the abundance of the same ovules may be accounted for by the

constant supply of male cones of *Encephalartos* and *Macrozamia*.

Experiments were then carried out in order to obtain more positive and more definite information. Young megasporophylls at Peradeniya were screened off against pollen grains by means of muslin bags applied before the ovules were ripe for pollination or were exposed to the action of the wind or of visiting insects. But any one who has tried the use of muslin bags in open places knows the practical difficulty of this type of experiment. Only one bag remained *in situ*. This single case was successful as far as it goes ; all the ovules, six in number, on the screened megasporophyll were found shrivelled two months later, although the sporophyll itself was still healthy. Further attempts are again being made on the same line, as well as experiments on artificial pollination. But we shall have to wait some time before finding out the effect of these tactics.

On the other hand, the examination of full-grown ovules of *C. Rumphii*, obtained from Peradeniya, has yielded conclusive results. Pollen grains belonging either to *Encephalartos* or *Macrozamia* were found in the pollen chamber of these ovules ; they had germinated within the pollen chamber and penetrated the nucellus, and had no doubt given the necessary stimulus for the full growth of the ovule, although in no case had fertilization in the strict sense taken place. We have here then a case of foreign pollination culminating in the production of a male gametophyte, which by penetrating the nucellus has given an impetus to the growth of the ovule, but which, because foreign, belonging to a different genus, was incapable of fertilizing the ovum and of producing an embryo ; that is to say, of producing a seed in the strict meaning of the word. This statement will receive justification from the description and explanation of the figures on Plate XIII.

Fig. 1 shows a sketch of a megasporophyll of *C. Rumphii* considerably reduced in size. The sporophyll itself is about 30 cm. long, and is narrower than that of *C. circinalis*. The serrate indentations represent pinnæ, and suggest a reduced foliage leaf ; the tip is entire, subulate, and some 6 cm. in length. The two healthy ovules (*ov.*) are about two months old ;

the two shrivelled ones are in a state of decay. In this young stage the ovules are subglobose, but later on they become oval and somewhat elongated at the base (Fig. 3). The micropyle (*mp.*) is situated in a notch. The sporophylls form at first a cone-like dense cluster, but soon begin to spread out in a horizontal position. At this stage a drop of mucilage may be seen on the micropyle. The sticky mucilage collects pollen grains, particles of dust, spores of fungi that float in the air, are carried about by the wind, and happen to come into contact with the micropyle. Some time later the drop of mucilage, together with its load, is sucked in through the micropyle, which becomes hermetically closed, and ends in a pointed, dry, and sharp tip.

In Fig. 2 is drawn a somewhat diagrammatic sketch of a pollen grain of *Macrozamia* as seen just before it is shed out of the pollen sac. It has already undergone partial germination through a double nuclear division and wall partition. *V.* is the vegetative cell, often called the prothallus cell, *g.* the generative cell, *t.c.* the tube cell.

Fig. 3 is a longitudinal section of a fully grown ovule of *C. Rumphii*. It is oval, but not quite regular in shape. Such an ovule is much larger than those of *C. circinalis*, and reaches some 6 or 7 cm. along its main axis.

The integument is single, but consists of three distinctive layers: an outer fleshy layer (*o.l.*), a hard stony layer (*st.l.*), and an inner fleshy layer (*i.l.*), which is permeated by numerous vascular bundles not shown in the diagram. The inner fleshy layer is far from being uniform in thickness, being remarkably broad and spongy at the base of the ovule. This feature is characteristic of *C. Rumphii*, as contrasted with *C. circinalis*. In the latter the inner fleshy layer is of a more or less uniform thickness, allowing the endosperm to expand freely into the shape of an egg, while the endosperm (*end.*) of *C. Rumphii* remains spherical, but somewhat flattened at the base. In this respect Fig. 127 in Coulter and Chamberlain (after Miss Stopes) is misleading (1). The diagram does not represent a section of *C. circinalis*, neither as a young stage nor as a nearly mature seed, but agrees well with a grown-up ovule of *C. Rumphii*, as may be seen by referring

to Fig. 3, which I have drawn from nature with the help of a camera lucida. The nucellus (*nuc.*) is attached to the inner fleshy layer along the greatest part of its course, and is reduced to a film, except at the apex, where it bulges out into a pointed cushion enclosing the characteristic pollen chamber (*p.c.*). The endosperm (*end.*), at first soft and jelly-like, becomes harder when older, and contains a great abundance of starch grains. It bears five or six archegonia (*a*), with their necks projecting into a depression situated just below the pollen chamber and called the archegonial chamber.

In Fig. 4 we have a magnified view of a pollen chamber (*p.c.*) formed as a cavity at the pointed end of the nucellus (*nuc.*). Particles of dust and spores of fungi frequently met with inside the pollen chamber have been purposely omitted in the sketch. It may be noted that these spores do not generally germinate inside a healthy ovule. It is only in the case of ovules that are not pollinated that the fungus thrives vigorously and causes decay, or perhaps also in a fully grown ovule whose vitality has become impaired. On rare occasions pollen grains other than of Cycads have been found; this is what would be expected, and has also been independently worked out recently by Mr. Birbal Sahni (4) and by Prof. F. W. Oliver (3). These pollen grains make no attempt to germinate, and have no more effect on the ovules of *C. Rumphii* than an ordinary foreign body such as a particle of dust.

Far different is the behaviour and effect of pollen grains belonging to other species, or even other genera, of Cycads. The pollination of *C. Rumphii* that took place at Henaratgoda Gardens must be attributed to *C. circinalis*; for no other male Cycads are to be seen in the neighbourhood. But most of the material used has been gathered from Peradeniya Gardens, where no male cone of the genus *Cycas* has been observed by me until quite recently. On the other hand, as already stated, male cones of *Encephalartos* and *Macrozamia* are frequent and abundant. The specimens sketched on Plate XIII. are all from Peradeniya.

Fig. 4 is a typical sample of the findings inside a growing healthy ovule of *C. Rumphii* some four months old. There is an ungerminated pollen grain (*p.g.*) stuck in a mass of

mucilage (*muc.*). This pollen grain is an abortive one, and has lost its contents. On the left side of the pollen chamber are four male gametophytes (*m.g.*) that have grown normally and produced a pollen tube that has penetrated the nucellus. There is no definite orientation in the direction followed by the pollen tubes, except that they never seem to push their way through the base towards the archegonial chamber. This may be due to the fact that *Cycas* itself is not fertilized by means of a pollen tube, but by swimming ciliated gametes which pass through the broken base of the nucellar cap into the archegonial chamber. The stimulus directing the germinating pollen grain is then more or less lateral; and the pollen tube growing into the nucellus acts then chiefly as an absorbing organ; and this holds good even when the genus *Cycas* is pollinated either by *Encephalartos* or *Macrozamia*.

Fig. 5 represents a detailed view of a fairly advanced condition of a male gametophyte. The ovule under examination was about four months old, judging from its size. The diagram explains itself: *v.c.* is the vegetative cell, *st.c.* the stalk cell, *p.t.* the pollen tube; *m.c.* is the mother cell, also called the body cell, and contains a large nucleus which will give rise to two male gametes; the two blepharoplasts (*bl.*) have already taken their definite orientation prior to the formation of the two male gametes. One feature of the male gametophyte is the great thickness of its outer cell-wall. From lack of sufficient literature ready at hand it is difficult to determine from the structure itself the genus to which the male gametophyte belongs. But it is clear enough it does not belong to the genus *Cycas*, and from personal observation and frequent visits to Peradeniya Gardens, I must refer this gametophyte either to the genus *Encephalartos* or to the genus *Macrozamia*.

It is the writer's hope to proceed further in his investigations and to establish more definitely some minor points that are still hypothetical. Meanwhile we may sum up the results obtained.

SUMMARY.

1. While female plants of *Cycas Rumphii* are very abundant in Ceylon, no male plant has been observed of late years.

2. The dispersal of this species of *Cycas* in Ceylon takes place by means of offshoots, and no true seeds can be obtained.

3. In the districts where no male plant of any Cycad can be found, the ovules of *C. Rumphii* thrive only for a short time, shrivel, decay, and fall off.

4. But in localities where male cones even of different genera occur, the ovules of *C. Rumphii* attain the size of a fully mature seed; but they contain no embryo, and consequently do not germinate.

5. On investigation it is found that foreign pollen grains belonging to *Encephalartos* or *Macrozamia* not only have pollinated *C. Rumphii*, but have produced male gametophytes.

6. The full growth of the ovules of *C. Rumphii* must be attributed to the stimulus exercised by these foreign male gametophytes. No true fertilization, however, has been observed, or is likely to have taken place.

7. Some minor points, such as the effect of spores of fungi received inside the pollen chamber, have also been discussed.

It is the writer's pleasant duty and wish to thank Mr. Petch and all the authorities at Peradeniya for having kindly granted him every help and facility for carrying out these investigations.

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(2) LE GOC, M. J.—*A Link with the Past*. The Ceylon Antiquary and Literary Register, Colombo, 1916, pp. 91-93.

(3) OLIVER, F. W.—*Foreign Pollen in Fossil Seeds*. The New Phytologist, Vol. XIV. (1915), p. 220.

(4) SAHNI, B.—*Foreign Pollen in the Ovules of Ginkgo and of Fossil Plants*. The New Phytologist, Vol. XIV. (1915), p. 149.

Explanation of Plate XIII.

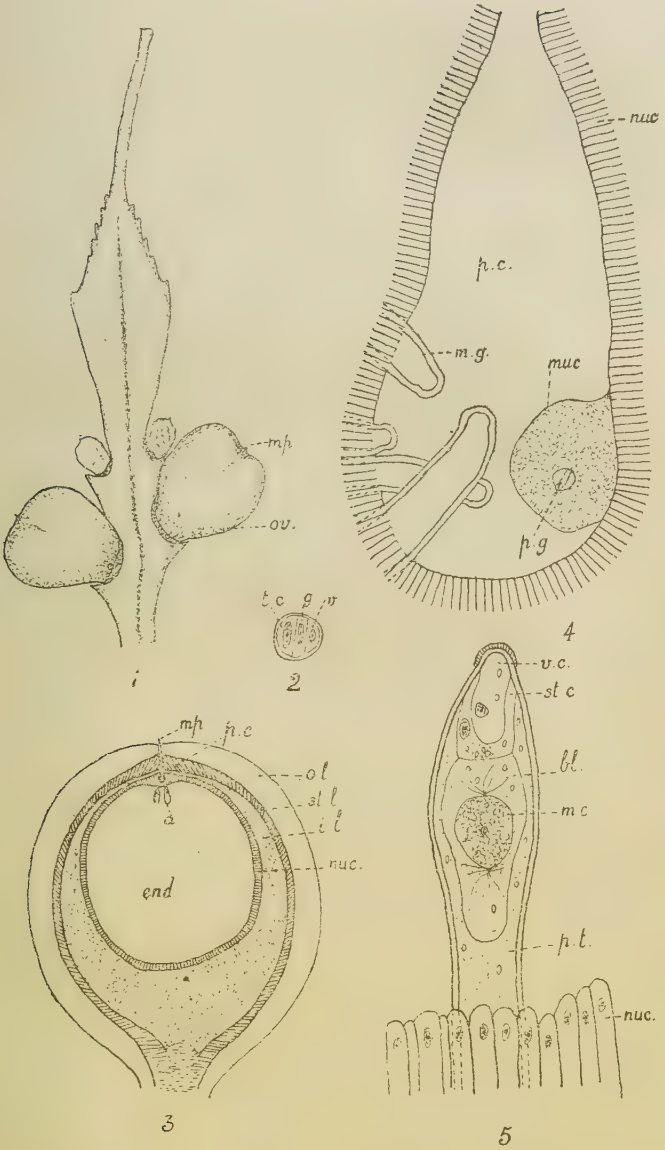
FIG. 1.—Megasporophyll of *Cycas Rumphii* considerably reduced in size; *ov.* a healthy ovule, *mp.* micropyle.

FIG. 2.—Pollen grain of *Macrozamia*; *v.* vegetative cell, *g.* generative cell, *t.c.* tube cell.

FIG. 3.—Fully grown ovule of *C. Rumphii*; *o.l.* outer fleshy layer, *st.l.* stony layer, *i.l.* inner fleshy layer, *nuc.* nucellus, *p.c.* pollen chamber, *a* archegonium, *end.* endosperm.

FIG. 4.—A pollen chamber; *muc.* mucilage, *p.g.* pollen grain, *m.g.* male gametophyte.

FIG. 5.—A male gametophyte; *v.c.* vegetative cell, *st.c.* stalk cell, *bl.* blepharoplast, *m.c.* mother cell, *p.t.* pollen tube.



CYCAS RUMPHII.

(Drawn by M. J. le Goc.)

Additions to Ceylon Fungi.

BY

T. PETCH, B.A., B.Sc.

THE fungi enumerated in the following list have been collected in Ceylon during recent years. Some of them have been recorded previously in various journals and reports, and are included here for convenience of reference.

HYMENOMYCETÆ.

Agaricaceæ.

Lepiota viridiflava n. sp.

Pileus almost plane, obtusely umbonate, up to 2·5 cm. diameter, dark green in the centre, elsewhere greenish-yellow or sulphur-yellow, with thin dark green patches and minute green points, which are slightly viscid when moist and shining when dry; margin strongly appendiculate, not striate. Flesh yellow, rather thick, turning green when cut. Stalk 2·5–3 cm. high, 3 mm. diameter in the middle, attenuated upwards, base curved and slightly inflated, greenish-yellow or sulphur-yellow, fibrillose, with dark green striæ towards the base, hollow, lined with white fibres, flesh yellow. Gills greenish-yellow or sulphur-yellow, free, crowded, rounded behind, equal or ventricose, turning green when bruised. Spores pale yellow, broadly oval, somewhat tapering towards one end, $5-8 \times 3-4 \mu$.

On the ground in flower beds, Peradeniya, July–November, 1909.

Pileo fere plano, obtuse umbonato, ad 2·5 cm. diam., centro fusco-viridi, alibi viridi-flavo vel sulphureo, punctis minutis viridibus et squamulis tenuibus fusco-viridibus ornatis, margine valde appendiculato, estriato. Carne flava, crassiuscula, secto viridescenti. Stipite, 2·5–3 cm. alt., medio 3 mm. diam., sursum attenuato, basi curvato et leniter inflato, viridi-flavo vel sulphureo, fibrilloso, ad basim striis fusco-viridibus, cavo, carne flava. Lamellis viridiflavis vel

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sulphureis, liberis, confertis, posteriore rotundatis, æqualibus vel ventricosis, fracto viridescens. Sporis pallide flavis late ovalibus, uno apice attenuatis, $5-8 \times 3-4 \mu$.

Tricholoma spongiosum n. sp.

Pileus 15 cm. diameter, almost plane, slightly umbonate, undulating, with a cuticle of radiating innate black-brown fibrils, blackening here and there, split in the centre into minute areolæ. Flesh white, thin, spongy. Stalk 6 cm. high, attenuated upwards, 2.5 cm. diameter below, 1.75 cm. diameter above, slightly rooting, blackish-brown or livid brown below, becoming paler above, sprinkled with minute brown points, solid, white, and spongy internally. Gills white, distant, broad (2 cm.), slightly attenuated outwards, sinuate, with a decurrent tooth, strongly ridged and veined above, edge irregular. Spores white, broadly oval, $5-7 \times 3-5 \mu$.

Hakgala, April, 1912 ; No. 3535 in Herb. Peradeniya.

Pileo 15 cm. diam., fere plano, sub-umbonato, undulato, fibrillis innatis, nigrobrunneis radiantibus ornato, hic illic nigrescente, centro minute areolato. Carne alba, spongiosa. Stipite 6 cm. alt., sursum attenuato, basi 2.5 cm. diam., supra 1.75 cm. diam., subradicante, nigrobrunneo, sursum pallescenti, minutis brunneis punctis sparsis, solido, intus albo, spongioso. Lamellis albis, remotis, latis (2 cm.), exteriore subattenuatis, sinuato-decurrentibus, valde venosis, acie irregulari. Sporibus albis, late ovalibus, $5-7 \times 3-5 \mu$.

Clitocybe nigra n. sp.

Pileus at first conico-campanulate, margin incurved ; then expanded, plane or repand, undulating, up to 7 cm. diameter. Young specimens black, minutely tomentose ; full-grown specimens black or black-brown in the centre, sordid brown, mottled with black streaks and patches, elsewhere, sometimes grayish-brown towards the margin, minutely sprinkled with blackish particles. Flesh white, thick over the stalk. Stalk white, blackening when handled, becoming gray when old, sometimes strongly ridged longitudinally, scurfy, solid, up to 9 cm. long, 1 cm. diameter. Gills white, broad, rather distant, adnate decurrent or decurrent, the united gills sometimes

splitting from the stalk, interstices strongly veined, arcuate, or slightly ventricose; edge fibrillose, sometimes coloured, bearing minute conical fascicles of hyphæ. Spores white, broadly oval, $9-12 \times 7-8 \mu$.

In bamboo clumps, Peradeniya, November, 1914; No. 4242 in Herb. Peradeniya; stains the fingers red when handled.

Pileo primo conico-campanulato, margine incurvo, dein expanso, plano vel repando, undulato, ad 7 cm. diam., primo nigro, minute tomentosus, dein centro nigro vel nigro-brunneo, alibi sordide brunneo, nigro-brunneo maculato, minute nigris particulis sparso; carne alba, centro crassa. Stipite albo, ætate griseo, interdum valde longitudinaliter striato, furfuraceo, solido, ad 9 cm. alt., 1 cm. diam. Lamellis albis, latis, remotiusculis, decurrentibus vel adnato-decurrentibus, interstitiis valde venosis, arcuatis vel subventricosis, acie fibrilloso. Sporibus albis, late ovalibus, $9-12 \times 7-8 \mu$.

Collybia multicolor n. sp.

Pileus 2-2.5 cm. diameter, plane, centre slightly umbonate or depressed, tough, centre dark green, clothed with a dense pile of short green hairs, shining when viewed obliquely, reddish-purple towards the margin. Flesh purplish. Stalk curved, 2.5 cm. long, 3 mm. diameter in the middle, almost equal, or inflated above and below, cartilaginous, rusty or orange-red, becoming more vividly orange-red at the apex, minutely and densely tomentose, stuffed, yellow internally. Gills dull yellow, ventricose, sinuate behind, adnato-decurrent, united by veins. Spores white, narrow oval, $5-6 \times 3 \mu$.

On dead wood, Hakgala; No. 3053 in Herb. Peradeniya.

Pileo 2-2.5 cm. diam., plano, leniter umbonato vel depresso, lento, centro fusco-viridi, tomento erecto brevi viridi vestito, marginem versus rubro-purpureo, carne purpureo. Stipite curvato, 2.5 cm. long; medio 3 mm. diam., fere æquali, vel sursum et deorsum inflato, cartilagineo, ferrugineo vel aurantiaco, apice saturiori, minute dense tomentosus, farcto, intus flavo. Lamellis flavis, ventricosis, sinuatis, adnato-decurrentibus. Sporibus albis, angusto-ovalibus $-6 \times 3 \mu$.

Collybia radicata Rehl.

Hakgala, September, 1914.

Mycena miniata n. sp.

Bright crimson ; pileus 5 mm. diameter, broadly conical, with a minute acute umbo ; gills white, distant, emarginate, adnate ; stalk white, then pinkish, glabrous, up to 4 cm. long, 0·4 mm. diameter, with a tuft of white hyphæ at the base.

On dead leaves, Hakgala, September, 1914 ; No. 4128 in Herb. Peradeniya.

Pileo vivide coccineo, ad 5 mm. diam., late conico, umbone minuto, acuto ; lamellis albis, remotis, emarginatis, adnatis ; stipite albo, rubescenti, glabro, ad 4 cm. long., 0·4 mm. diam., basi tomentoso.

Omphalia cylindraceo-campanulata (P. Henn.) v. Hohnel.

Pattipola, October, 1906 ; Hakgala, January, 1914.

Pleurotus reticulatus n. sp.

Pileus 6-12 cm. diameter, infundibuliform, outer half at first decurved, then almost wholly infundibuliform, yellow-brown in the centre, yellow or brownish-yellow elsewhere, blackening in the centre and becoming paler at the margin when old, glabrous, margin not striate. Total height, 6-9 cm. Flesh white over the gills, becoming yellow over the stalk. Stalk 3-3·5 cm. high, 1-1·4 cm. thick, equal, expanding into the pileus, expanding slightly at the base, golden yellow, reticulated with red-brown lines of innate fibrils, solid, slightly tomentose at the base, excentric, internally golden yellow or golden brown. Gills yellow, becoming pallid when old and turning green when drying, decurrent, continued down the stem in lines of four lengths which frequently anastomose, crowded, broad, arcuate, edge slightly irregular. Spores white, globose or broadly oval, 4·5-6 μ diameter.

On dead wood, Hakgala, April, 1912 ; No. 3536 in Herb. Peradeniya.

Pileo 6-12 cm. diam., infundibuliformi, centro flavo-brunneo, nigrescente, alibi flavo vel brunneo flavo, glabro, estriato ; toto fungo 6-9 cm. alt. Carne centro flava, exteriores

alba. Stipite 3-3.5 cm. alt., 1-1.4 cm. diam., deorsum subincrassato, aureo, fibrillis rubrobrunneis innatis reticulato, solido, basi subtomentoso, excentrico, intus aureo vel aureo-brunneo. Lamellis flavis, ætate pallescentibus, sicco viridiscientibus, decurrentibus, in stipite anastomosantibus, confertis, latis, arcuatis, acie subirregulari. Spores albis, globosis vel late ovalibus, 4.5-6 μ diam.

Hygrophorus rufus n. sp.

Pileus up to 3 cm. diameter, almost plane, repand, undulating, deep red-brown, mottled with yellowish-brown, minutely scurfy, especially in the centre. Stalk up to 3.5 cm. high, 4 mm. diameter, flexuose, paler than the pileus, slightly fibrillose. Gills moderately distant, colour of the pileus or slightly paler (terracotta), adnato-decurrent, rather narrow, attenuated outwards. Spores white, broadly oval, 5-6 $\times$ 4 μ .

On the ground among grass, Peradeniya; specimen and painting, No. 4220 in Herb. Peradeniya.

Pileo ad 3 cm. diam., fere plano, repando, undulato, saturo rubro-brunneo, flavo-brunneo maculato, minute furfuraceo. Stipite ad 3.5 cm. alt., 4 mm. diam., flexuoso, pileo pallidiore, parum fibrilloso. Lamellis subremotis, pileo unicoloribus vel pallidioribus, adnato-decurrentibus, subangustis, exteriore attenuatis. Sporis albis, late ovalibus, 5-6 $\times$ 4 μ .

Cantharellus pellucidus n. sp.

Whole fungus white, translucent. Pileus up to 4 mm. diameter, almost plane, centre umbilicate, or broadly infundibuliform, membranous, faintly rugose, sulcate to the centre, margin crenate or fimbriate. Stalk up to 7 mm. high, attenuated upwards, 1 mm. diameter at the base, minutely tomentose. Gills about six in number, distant, narrow, rather thick, adnate, or slightly decurrent, scarcely evident when dry. Spores white, oval, inequilateral, 8-10 $\times$ 4-5 μ .

On the bark of living trees, Peradeniya, October, 1908; No. 2896 in Herb. Peradeniya.

Albus, pellucidus. Pileo ad 4 mm. diam., fere plano, umbilicato, vel late infundibuliformi, membranaceo, leniter rugoso, sulcato, margine crenato vel fimbriato. Stipite ad

7 mm. alt., sursum attenuato, basi 1 mm. diam., minute tomentosus. Lamellis circa sex, remotis, angustis, crassiusculis, adnatis vel subdecurrentibus, sicco inconspicuis. Sporibus albis ovalibus, inequilateralibus, $8-10 \times 4-5 \mu$.

Cantharellus furfuraceus n. sp.

Up to 1.5 cm. diameter, orbicular, almost plane, depressed behind, margin decurved, white, thin, minutely scurfy; stalk lateral, short, up to 1.5 mm. diameter, clothed with spreading hairs; gills adnate, distant, forked and anastomosing, up to 0.75 mm. high, edge thick.

On the ground among moss, Hakgala. April, 1915; No. 4639 in Herb. Peradeniya.

Pileo ad 1.5 cm. diam., orbiculari, fere plano, post depresso, albo, tenui, minute furfuraceo, margine decurvo; stipite laterali, brevi, ad 1.5 mm. diam., setis patulis vestito; lamellis adnatis, remotis, furcatis, anastomosantibus, ad 0.75 mm. alt., acie crassa.

Russula purpurea-nigra n. sp.

Whole fungus at first white, then blackish-gray, finally purple-black. Pileus up to 15 cm. diameter, infundibuliform, glabrous, with a viscid separable cuticle. Flesh thick, at first white, becoming black when cut. Stalk up to 6 cm. high, 2.5 cm. diameter, minutely pruinose, equal, solid. Gills crowded, narrow, attenuated outwards, adnate or adnato-decurrent. Spores white, globose, nodular, $5-7 \mu$ diameter.

Among grass, often in rings, Peradeniya, October, 1914, &c.; specimens and painting, No. 4175 in Herb. Peradeniya.

Primo alba, deinde fusco-grisea, postremo purpureo-nigra. Pileo ad 15 cm. diam., infundibuliformi, glabro, cute viscido, separabili; carne crassa, alba, secto nigrescente. Stipite ad 6 cm. alt., 2.5 cm. crass., minute pruinoso, æquali, solido. Lamellis confertis, angustis, exteriore attenuatis, adnatis, vel adnato-decurrentibus. Sporibus albis, globosis, nodulosis, $5-7 \mu$ diameter.

Claudopus fusco-lamellatus n. sp.

Sessile, orbicular or flabelliform, up to 7×5 cm., cream coloured, smooth behind, sometimes slightly tomentose

towards the margin ; margin incurved ; gills slightly fuscous, blackening in drying, narrow, crowded ; spores salmon-pink, oval, inequilateral, $4-5 \times 2-3 \mu$.

On a decaying tree trunk, Hakgala, April, 1914 ; No. 4061 in Herb. Peradeniya.

Pileo sessili, orbiculari vel flabelliformi, ad 7×5 cm., cremicolori, post levi, ad marginem interdum subtomentoso ; margine incurvo ; lamellis subfuscis, sicco nigrescentibus, angustis, confertis ; sporis ovalibus, inequilateralibus, $4-5 \times 2-3 \mu$.

Inocybe cutifracta n. sp.

Pileus almost plane, broadly and obtusely umbonate, up to 3 cm. diameter, sulcate up to the broad umbo, margin decurved ; umbo red-brown, smooth or slightly scabrous, elsewhere brownish-gray, shining, the cuticle split into radial fascicles of coarse, innate fibrils ; margin crenate ; flesh thin, brownish. Stalk up to 4 cm. high, 3 mm. diameter, equal or slightly attenuated upwards, solid, brittle, slightly bulbous at the base, white, clothed with scattered, white fibrils. Gills white, then fuscous, finally brown, somewhat ventricose, adnexed, rather distant, margin pallid. Spores pale brown in mass, pale yellow-brown when magnified, oval, smooth, $8-10 \times 4-6 \mu$. Cystidia clavate or oblong-oval, up to 50μ , pedicel short, $5-8 \mu$ diameter, expanding suddenly into an oblong-oval, or more gradually into a clavate head, $12-18 \mu$ diameter.

Peradeniya, October, 1914 ; No. 4176 in Herb. Peradeniya.

Pileo fere plano, late obtuse umbonato, ad 3 cm. diam., sulcato, margine decurvo, centro rubro-brunneo vel brunneo, levi vel subfurfuraceo, alibi brunneogriseo, nitente, cute in fasciculis radiantibus fracta, margine crenato ; carne tenui subbrunneo. Stipite ad 4 cm. alt., 3 mm. diam., æquali vel sursum leniter attenuato, solido, fragili, basi subbulboso, albo, fibrillis albis sparsis vestito. Lamellis albis, dein fuscis, tandem brunneis, subventricosis, adnexus, remotiusculis, margine pallido. Sporis pallide flavobrunneis, ovalibus, levibus, $8-10 \times 4-6 \mu$. Cystidiis clavatis vel oblongo-ovalibus, ad 50μ , stipite brevi, $5-8 \mu$ diam., capite $12-18 \mu$ diam.

Inocybe umbonata n. sp.

Pileus campanulate or conicocampanulate, 2-4 cm. diameter, 1-3 cm. high, with an abruptly acute, conical, pointed, or obtuse umbo, 2-3 mm. high, readily detachable. Umbo black, glabrous; pileus elsewhere bay to yellow-brown, with minute black-brown scales round the umbo, and thin, narrow, fibrillose, dark-tipped scales elsewhere; radially fibrillose and striato-sulcate almost to the centre. Flesh thin, white. Stalk 7-12.5 cm. high, 2-4 mm. diameter, dark brown, with a purplish tinge when moist, squamulose or fibrillose below, fibrillose above, at first with a rudimentary fibrillose ring, longitudinally striate, equal or attenuated upwards, stuffed, inflated at the base, brittle. Spores globose, 7-9 μ diameter, thickly covered with long, conical, diverging spines, 2-3 μ long, pale brown when magnified, brown in mass. Cystidia clavate or flask-shaped, 32-40 $\times$ 8-16 μ , with an irregular crystalloid cap.

Peradeniya, among grass, October, 1914; specimens and painting, Nos. 3499, 4173 in Herb. Peradeniya.

Pileo campanulato vel conico-campanulato, 2-4 cm. diam., 1-3 cm. alt., acute umbonato; umbone nigro, glabro, conico, obtuso vel acuto, facile secernibili, 2-3 mm. alt.; pileo badio vel flavo-brunneo, centro squamulis minutis, fuscobrunneis, alibi squamulis tenuibus, fibrillosis, angustis, fusco-marginatis ornato, radiatim fibrilloso, striato-sulcato. Carne tenui, alba. Stipite 7-12 cm. alt., 2-4 mm. diam., fusco-brunneo, udo subpurpureo, deorsum fibrilloso vel squamuloso, sursum fibrilloso, primo annulo fibrilloso, longitudinaliter striato, æquali vel sursum attenuato, faretto, basi inflato, fragili. Sporibus globosis, 7-9 μ diam., spinis conicis, divergentibus, 2-3 μ long., dense echinulatis, pallide brunneis. Cystidiis clavatis vel ampullaceis, 32-40 $\times$ 8-16 μ , capitulo crystalloideo irregulari.

Paxillus lateritius n. sp.

Pileus light red to brick-red, becoming ochraceous when old, almost plane, centre depressed, margin inrolled at first, narrowly decurved when fully expanded, up to 6 cm. diameter, minutely tomentose. Flesh white. Stalk up to 5 cm. high,

1 cm. diameter, solid, equal, expanding into the pileus, yellowish-red, covered with minute red points. Gills decurrent, arcuate, narrow, rather thick, cream coloured. Spores oval, somewhat inequilateral, with a prominent apiculus, minutely verrucose, pale ochraceous in mass, pale yellow when magnified, $8-9 \times 6-7 \mu$. All parts turn purple-brown when bruised, the flesh tinged purple when cut.

Peradeniya, November, 1914; specimen and painting, No. 4230 in Herb. Peradeniya.

Pileo pallide-rubro vel lateritio, ætate ochraceo, fere plano, centro depresso, margine primo involuto, expanso anguste decurvo, ad 6 cm. diam., minute tomentosus. Carne alba. Stipite ad 5 cm. alt., 1 cm. diam., solido, æquali, flavo-rubro, punctis rubris minutis sparso. Lamellis decurrentibus, arcuatis, angustis, crassiusculis, cremicoloribus. Sporis ovalibus, apiculo prominente, minute verrucosis, pallide flavis, coacervatis pallide ochraceis, $8-9 \times 6-7 \mu$.

***Psathyra treehispora* n. sp.**

Pileus at first conical, then broadly hemispherical or convex, up to 7 cm. diameter, smooth and red-brown at first, becoming lacunose, dull brown, with a yellowish-brown centre and a paler margin when moist, or pale yellow-brown to ashy, with a darker brown centre when drier; hygrophane; flesh thin, pallid. Stalk up to 9 cm. long, 8 mm. diameter, brownish-white or pallid, shining, longitudinally striate, twisted, hollow, equal or slightly attenuated upwards, slightly inflated at the base. Gills narrow (3 mm.), very crowded, attenuated outwards, the longer adnate with a decurrent line, intermediate gills free, but close to the stem, pallid, slowly becoming pale purple-brown. Cystidia not found. Spores purple-brown, broadly oval, $6-7 \times 5 \mu$, or globose, 5μ , thick-walled, verrucose.

On the ground, round decaying stumps, in troops along the lines of the lateral roots, Peradeniya; No. 4919 in Herb. Peradeniya, October, 1916. A frequent species, but not identified among the species described by Berkeley and Broome. As the gills remain pallid for a long time, it may have been included by them among the *Leucosporæ*: e.g., in some details it resembles *Collybia rufipicta* B. & Br.

Pileo primo conico, deinde late hemisphærico vel convexo, ad 7 cm. diam.; primo levi, rufo, dein lacunoso, udo brunneo, centro flavo-brunneo, margine pallidiore, sicco pallide flavo-brunneo vel cinereo, centro fusco brunneo; hygrophano; carne tenui, pallida. Stipite ad 9 cm. alt., 8 mm. diam., brunneo-albo vel pallido, nitente, longitudinaliter striato, torto, cavo, æquali vel leniter sursum attenuato. Lamellis angustis, confertissimis, exteriore attenuatis, longioribus adnatis linea decurrente, intermediis liberis, approximatis, pallidis, tarde pallide purpureo-brunneis. Sporibus purpureo-brunneis, late ovalibus, $6-7 \times 5 \mu$, vel globosis 5μ , episporio crasso, verrucoso.

Polyporaceæ.

Boletus luteus Linn.

Hakgala, December, 1905; common.

Poria rubrochorda n. sp.

Mycelium forming orange-red strands up to 1 mm. diameter, or spreading in sheets over dead twigs, leaves, &c., producing here and there small patches of hymenium; thin, indeterminate, orange-red, margin narrow and tomentose: pores angular, about 0.1 mm. diameter.

Peradeniya, November, 1914, at the base of clumps of *Dendrocalamus giganteus* Munro; No. 4263 in Herb. Peradeniya.

Mycelio rhizomorphoideo, rubro, ad 1 mm. diam., vel byssoideo; hymenio sparso, parvo, tenui, effuso, rubro, margine tomentoso, angusto; poris angulatis, ad 0.1 mm. diam.

Merulius polychromus n. sp.

Centre green, olive-green, or olive-brown with a glaucous bloom, surrounded by a yellow-green zone and broad outer yellow zone; extreme margin white and floccose. Yellow or brown when old. Substance white, thin. Surface even. Spores dark olive in mass, pale yellow-brown by transmitted light, oval, smooth, $8-10 \times 5-6 \mu$.

On newly-built mud and wattle walls, Hakgala, May, 1913; No. 3769 in Herb. Peradeniya. When the wall is plastered and limewashed, the fungus produces only a thin white patch, and brown strands spreading over the surface.

Centro viridi, olivaceo-viridi, vel olivaceo-brunneo, glauco, zonis flavo-viridi et flavo cincto; margine albo, floccoso. Ætate flavo vel brunneo. Contextu albo, tenui; superficiei æquali. Sporis ovalibus, levibus, pallide flavo-brunneis, coacervatis fusco-brunneis, $8-10 \times 5-6 \mu$.

Thelephoraceæ.

Thelephora terrestris Ehrh.

Common at Hakgala in one locality, perhaps introduced, December, 1905, &c.

Skepperia zeylanica n. sp.

Stalked, orbicular, auricular, or spathulate, up to 5 mm. high and broad. Margin at first strongly incurved, so that the pileus appears infundibuliform but split down one side; finally plane or reflexed, white, waxy, translucent, brown when old. Stalk 0.5-3 mm. high, 0.3 mm. diameter, yellow-brown, translucent, blackening when old, sometimes slightly fibrillose at the base. Stalk and pileus covered with hyaline cystidia, consisting of a fusoid or cylindrical stalk, 50 μ long, 4-6 μ diameter, with a globose, slightly flattened head up to 10 μ diameter, stalk and head rough with minute conical warts. Basidia clavate, four-spored, $40 \times 7 \mu$. Spores oval, inequilateral, $7-10 \times 4-5 \mu$. On decaying fronds of *Oncosperma*, Peradeniya, July, 1909; No. 2894 in Herb. Peradeniya.

Stipitata, orbicularis, auricularis, vel spathulata, ad 5 mm. alt. et lat.; margine primo valde involuto, dein pileo plano vel reflexo, albo, ceraceo, pellucido, ætate brunneo: stipite 0.5-3 mm. alt., 0.3 mm. diam., flavo-brunneo, pellucido, ætate nigrescenti, interdum basi fibrilloso; toto fungillo cystidiis hyalinis induto; cystidiis stipite fusoides vel cylindraceo, 50 μ long., 4-6 μ diam., capite globoso, subapplanato, ad 10 μ diam., verrucis minutis conicis asperis; basidiis clavatis, 4-sporis, $40 \times 7 \mu$; sporis ovalibus, inæquilateralibus, $7-10 \times 4.5 \mu$.

Exobasidium indicum Syd. & Butl.

On *Symplocos* sp., Hakgala, May, 1912.

*Clavariaceæ.****Clavaria Zippellii* Lev.**

Hakgala, September, 1908. &c. : Peradeniya, November, 1912.

***Physalacria villosa* n. sp.**

White ; head globose, up to 0·4 mm. diameter ; stalk up to 0·7 mm. high, 0·1 mm. diameter below, tapering to 40 μ above, twisted above, fibrous, rough, with minute crystals, covered with rigid, horizontal, conical or flask-shaped cystidia, up to 30 μ high, 8 μ diameter at the base, tapering from the middle upwards, thick-walled, slightly rough, apex usually truncate, sometimes subcapitate ; basidia four-spored. On dead leaves, Hakgala ; No. 4391 in Herb. Peradeniya.

Albus ; capite globoso, ad 0·4 mm. diam. ; stipite ad 0·7 mm. alt., basi 0·1 mm. diam., sursum ad 40 μ attenuato, apice torto, fibroso, aspero, cystidiis rigidis, patulis, conicis vel ampullaceis, ad 30 μ alt., basi 8 μ diam., sursum e medio attenuatis, pariete crasso, aspero, apice plerumque truncatis, interdum subcapitatis ; basidiis 4-sporis.

*Tremellaceæ.****Auricularia mesenterica* Fries.**

Gangaruwa, December, 1913.

***Sebacina rufochracea* von Höhnelt in litt.**

Gampola, November, 1909.

***Gloiocephala zeylanica* n. sp.**

Pileus up to 2·5 mm. diameter, broadly convex, or plane, or infundibuliform, white, subtranslucent, membranous, not gelatinous ; margin fringed with capitate cystidia, which are also scattered over the upper surface of the pileus ; under surface even, or in large specimens plicate towards the stalk ; stalk up to 7 mm. high, 0·12 mm. diameter, black, horny, covered with horizontal cystidia as on the pileus, and with minute, brown, rigid hairs, 8–20 $\times$ 4–6 μ . Cystidia up to 130 μ high, 16 μ diameter below, tapering to 12 μ above, thin-walled, head subglobose, 16 μ diameter, sometimes encrusted. Basidia clavate, about 20 $\times$ 8 μ , four-spored. On dead

leaves, Hakgala, January, 1914, &c., common; No. 4374 in Herb. Peradeniya.

Pileo ad 2·5 mm. diam., late convexo vel plano vel infundibuliformi, albo, subpellucido, membranaceo, non gelatinoso, cystidiis capitatis, margine præcipue, ciliato, infra æquali vel exemplis majoribus ad stipitem plicato; stipite ad 7 mm. alt., 0·12 mm. diam., nigro, corneo, cystidiis horizontalibus et setis rigidis brunneis $8-20 \times 4-6 \mu$ vestito; basidiis clavatis, circa $20 \times 8 \mu$, 4-sporis. Cystidiis ad 130μ alt., basi 16μ diam., supra 12μ diam., attenuatis, pariete tenui, capite subgloboso, 16μ diam., interdum incrustato.

GASTEROMYCETÆ.

Hymenogastraceæ.

Rhizopogon flavum n. sp.

Subglobosè or ellipsoidal, scattered or fused in clusters, up to 3 cm. $\times$ 2 cm., sordid yellow, sparsely covered with brown mycelial strands. Peridium about 0·5 mm. thick, yellow internally; septa thin. Internally blackish-brown, gleba yellow when mounted. Spores pale yellow, narrow-oval or cylindric, ends obtuse, $4-6 \times 2-3 \mu$. Hakgala, January, 1914; No. 3936 in Herb. Peradeniya.

Subglobosum vel ellipsoideum, sparsum vel conglobatum, ad 3 cm. $\times$ 2 cm., sordide flavum, rhizomorphis brunneis sparsis vestitum: peridio circa 0·5 mm. crass., intus flavo; septis tenuibus; gleba flava, per saturam nigro-brunnea; sporis pallide flavis, angusto-ovalibus vel cylindricis, obtusis, $4-6 \times 2\cdot5-3 \mu$.

Hymenogaster zeylanicus n. sp.

Subglobose or depressed, up to 2 cm. diameter, brownish-yellow, rugose, internally reddish-brown (dry). Chambers small, irregularly polygonal towards the centre, tending to rectangular and tangentially elongated towards the periphery, up to $1 \times 0\cdot3$ mm. Wall thin, about 25μ thick when dry, dissepiments 10μ thick (dry). No central columella. Basidia one-spored, sterigmata short (3μ). Spores yellow-brown, verrucose, thick-walled, oval or bi-apiculate, $12-16 \times 8-9 \mu$. Hakgala, May, 1913; No. 4603 in Herb. Peradeniya.

Subglobosus vel depressus, ad 2 cm. diam., brunneo-flavus, rugosus, intus (sicco) rubrobrunneus; loculis parvis, centro irregulariter polygoniis, exteriorem versus quadrangulis et elongatis, ad 1×0.3 mm.; peridio tenui, circa 25μ crass. (sicco), dissepimentibus, 10μ crass.; columella nulla; basidiis unisporis, sterigmatibus brevibus; sporis flavobrunneis, verrucosis, episporio crasso, ovalibus vel biapiculatis, $12-16 \times 8-9 \mu$.

Phallaceæ.

Mutinus bambusinus (Zoll.) Fischer.

Peraldeniya, a single specimen, May 30, 1912; abundant. October 29–November 23, 1914.

10–16 cm. high, head 5–8 cm. long. Stalk usually attenuated below, pink above, becoming white below, outer walls of chambers perforated, passing with or without an abrupt change of diameter into the head. Head (gleba removed) regularly conical, rugose, crimson to dark red, inner walls of chambers perforated or almost wanting. Apex of head often destitute of gleba for a length of about 3 mm., laterally compressed, open or closed; if open, the two lips of the orifice are closely applied to one another. Smell, vinous or fruity at a short distance, but foetid when close.

USTILAGINACEÆ.

Sphacelotheca monilifera (Ell. & Ev.) Clinton.

In ovaries of *Andropogon contortus* L., Jaffna, November, 1916.

In the affected inflorescences, the awns are suppressed and the glumes are destitute of hairs, though the tubercles persist. There are specimens in the phanerogamic herbarium at Peraldeniya collected at Jaffna by Trimen.

UREDINACEÆ.

Uromyces.

Uromyces Vestergreni Syd.

On *Bauhinia tomentosa* L., Sigiriya, August, 1912.

Uromyces Rumicis (Schum.) Wint.

On *Rumex obtusifolius* L., Hakgala, September 9, 1913.
Uredo.

Uromyces decoratus Syd.

On *Crotalaria ferruginea* Grah., Bandarawela, August, 1916.
Uredo on *Crotalaria albida* Heyne, Hakgala, April, 1915.

Uromyces Isachnes n. sp.

On *Isachne Kunthiana* W. & A., Hakgala, May, 1912.

Sori circular, hypophyllous, dark brown. Uredospores pyriform, oval, or subglobose, $18-24 \times 16-18 \mu$, fuliginous brown, spinulose; teleutospores pyriform, $18 \times 16 \mu$, dark brown, smooth, thick-walled, with a paler pedicel 16μ long.

*Puccinia.***Puccinia Polygoni-amphibii** Pers.

On *Polygonum punctatum* Ham., Nuwara Eliya, September 9, 1913. Uredo.

Puccinia Eragrostidis n. sp.

On *Eragrostis nigra* Nees., Hakgala. Uredo, May, 1910. Teleutospores, September 9, 1913. Uredo recorded in Ann. Perad., V., p. 231, as *Uromyces Eragrostidis* Tracy.

Uredo sori linear, 0.25–0.5 mm. long, hypophyllous, reddish orange when fresh, pale brown when dry. Uredospores globose, pale brown or almost hyaline, contents orange, wall hyaline, echinulate, 14–22 μ diameter.

Teleutosori black, circular or oval, hypophyllous, 0.25 $\times$ 0.2 mm. Teleutospores oval or oblong-oval, yellow-brown with a darker apex; apex usually rounded and scarcely thickened; base usually rounded, sometimes slightly attenuated; slightly constricted at the septum, smooth, 20–32 $\times$ 15–17 μ ; pedicel hyaline, obliquely inserted, equal or slightly tapering, 30–50 $\times$ 3–5 μ .

Puccinia purpurea Kalch. & Cke.

Uredo. On *Sorghum halepense* (Johnson grass), Gangaruwa, May 13, 1914.

***Puccinia Vernoniæ-scariosæ* n. sp.**

On *Vernonia scariosa* Arn., Hakgala, March, 1914.

Uredo sori hypophyllous, scattered, circular, up to 0.2 mm. diameter; uredospores yellow-brown, spinulose, oval, 28–33 $\times$ 24–26 μ , or globose, 25 μ .

Teleutospores hyaline, irregularly clavate, apex rounded, upper cell wall usually thickened (up to 8 μ), constricted at the septum, pedicel short, 33–50 $\times$ 18–24 μ (without pedicel), germinating in the sorus. Triangular *Diorchidium* teleutospores present.

***Puccinia Cynodontis* Desm.**

On *Cynodon Dactylon* Pers., Jaffna, November, 1916.

*Phragmidium.****Phragmidium disciflorum* (Tode) James.**

On calyx of cultivated rose, Edinburgh estate, Nanu-oya, January, 1913. Cœoma stage; pustule 9 mm. diameter: spores 16–20 $\times$ 14–16 μ .

*Ravenelia.****Ravenelia emblicæ* H. & P. Syd.**

On *Phyllanthus polyphyllus* Willd., Sigiriya, August, 1912.

*Cronartium.****Cronartium Zizyphi* Syd. & Butl.**

On *Zizyphus ænophia* Mill. Uredo, Peradeniya, January 11, 1914, &c.; Teleutospores, Peradeniya, February 14, 1915; March, 1915.

*Coleosporium.****Coleosporium Erythrinæ* n. sp.**

On leaves of *Erythrina lithosperma* Bl., Gallebodde Estate, July 26, 1915.

Spots small, circular, gray, up to 5 mm. diameter. Sori minute, epiphyllous, scattered, black-brown, up to 0.2 mm. diameter. Teleutospores pale brown, cylindric, oval or subclavate, ends rounded, three-septate, slightly constricted

at the septa, apex slightly thickened, $38-56 \times 16-18 \mu$. Uredospores (few seen) globose, $17-20 \mu$, pale brown, minutely spinulose.

Diorchidium.

Diorchidium lævigatum Syd. & Butl.

On *Oplismenus compositus* Beauv., Hakgala, May, 1912.

Uredospores rather dark brown, strongly echinulate, ovoid, $22-28 \times 16-19 \mu$, or globose, $20-21 \mu$.

Diorchidium orientale Syd. & Butl.

On *Panicum* sp., Peradeniya, February 21, 1913. On *Panicum trigonum* Retz., Peradeniya, January 11, 1914.

Diorchidium Polyalthiæ Syd.

On *Polyalthia longifolia* B. & Hk. f., Peradeniya, January 21, 1914.

Chrysomyxa.

Chrysomyxa Bombacis n. sp.

On leaves of *Bombax malabaricum* DC., Peradeniya, January, 1915.

Teleutosori hypophyllous, pulvinate, yellow, about 0.25 mm. diameter. Teleutospores eight-celled, up to $110 \times 16 \mu$, cells cubical, about $14 \times 16 \mu$, constricted at the septa, wall hyaline, contents yellow.

Æcidium.

Æcidium Breyniæ Syd.

On *Breynia patens* Hk. f., Peradeniya, December, 1914, &c.

Æcidium Serpiculæ n. sp.

On *Serpicula hirsuta* W. & A., Nuwara Eliya, April 28, 1915.

Æcidia 0.25 mm. diameter, hypophyllous, situated in minute prominences, surrounded by a black line. Pseudoperidium white, narrow, recurved; mass of spores orange. Pseudoperidial cells sub-hexagonal, $24-36 \times 16-18 \mu$, verrucose, with warts and short ridges. Æcidiospores broadly oval or subglobose, $16-18 \times 14-18 \mu$, wall hyaline, smooth.

***Æcidium micranthum* Syd.**

On *Psychotria elongata* Hk. f., Hakgala, May, 1910. Recorded in Ann. Perad., V., p. 243, as *Æcidium iquilosense* P. Henn.

***Æcidium Emilie* comb. nov.**

Æcidium Gynuræ Petch, Ann. Perad., V., p. 244. This species is on *Emilia sonchifolia* DC., not on *Gynura lycopersicifolia* DC., the host plant having been previously wrongly identified.

***Æcidium Vernoniæ-cinereæ* n. sp.**

On *Vernonia cinerea* Less., Anuradhapura, July, 1915.

Æcidia hypophyllous, scattered, 0·15 mm. diameter, pseudoperidium tubular, well developed. *Æcidiospores* oval or globose, minutely warted, $14-16 \times 8-12 \mu$. Pseudoperidial cells polygonal, closely verrucose, thick-walled, $20-32 \times 16-24 \mu$.

***Æcidium Vernoniæ-Hookerianæ* n. sp.**

On leaves of *Vernonia Hookeriana* Arn., Peradeniya, May, 1910. Recorded in Ann. Perad., V., p. 243, as *Æcidium Vernoniæ* P. Henn.

Spots pale yellow-green, often extending over the whole leaf. *Æcidia* usually hypophyllous, rarely one or two on the upper surface, scattered over the whole leaf, often densely crowded, 0·25-0·5 mm. diameter, pseudoperidium strongly developed, stout, recurved, white; mass of spores yellow. *Æcidiospores* ovoid, $18-21 \times 13-15 \mu$, or globose, $16-21 \mu$ diameter, wall hyaline, closely and minutely verrucose; contents yellow. Pseudoperidial cells pentagonal or quadrangular, $18-31 \times 15-25 \mu$, verrucose, with large close-set warts and ridges; wall up to 4μ thick.

*Uredo.****Uredo Ophiorrhizæ* n. sp.**

On *Ophiorrhiza Mungos* L., Gangaruwa, December 25, 1913; January 18, 1914.

Sori pale orange, scattered, hypophyllous, about 0·2 mm. diameter, circular. Uredospores oval to subglobose, contents orange, wall hyaline, echinulate, $16-22 \times 16 \mu$.

Uredo Momordicæ n. sp.

On *Momordica Charantia* L., Peradeniya, May 12, 1914.

Sori scattered, on either side of the leaf, dark brown, usually circular, up to 0·25 mm. diameter. Uredospores oval or globose, dark brown, echinulate, $30-34 \times 24-28 \mu$.

Uredo Phyllanthi-longifolii n. sp.

On *Phyllanthus longifolius* Jacq., Peradeniya, August, 1912.

Sori hypophyllous, scattered or clustered, circular, 0·25 mm. diameter. Uredospores oval or pyriform, hyaline, verrucose, $20-28 \times 13-16 \mu$. Paraphyses hyaline, clavate, apex curved or straight, rather thin-walled, up to 55 μ long, 6 μ diameter below, 12 μ above.

Uredo cristata Speg.

On *Sapindus bifolius* Hiern, Sigiriya, August, 1912.

Uredo Hyperici-mysorensis n. sp.

On *Hypericum mysorense* Heyne, Sita Eliya, April 22, 1915 ; Nuwara Eliya, April 28, 1915.

Spots purple-red. Sori amphigenous, clustered, orange, pulvinate, circular or elongated, up to $0\cdot4 \times 0\cdot2$ mm. Uredospores oval or globose, $18-26 \times 16-18 \mu$, contents orange, wall almost hyaline, minutely echinulate. Paraphyses short, subclavate, or cylindric with a globose head, apex thickened, yellow-brown, $40-50 \times 6-8 \mu$.

Uredo Vernoniicola n. sp.

On *Vernonia cinerea* Less., Peradeniya, December, 1908. On *Vernonia Wightiana* Arn., Hakgala, May, 1910. On *Vernonia setigera* Arn., Hakgala, April, 1915. Recorded in Ann. Perad., V., p. 232, as *Puccinia Lorentzii* P. Henn. ?

Sori scattered, hypophyllous, ferruginous when fresh, pale brown when dry, circular, up to 0·4 mm. diameter. Uredospores globose, 20-24 μ diameter, or oval, $24-28 \times 18-21 \mu$, spinulose, wall hyaline, contents orange.

Uredo Vernoniæ-Hookerianæ n. sp.

On *Vernonia Hookeriana* Arn., Peradeniya, June, 1910. Recorded in Ann. Perad., V., p. 231, as *Puccinia Vernoniæ* Cke. ?

Sori minute, on red-brown spots when old, scattered, hypophyllous. Uredospores globose, $19-21\ \mu$, or oval or pyriform, $20-24 \times 16-20\ \mu$, echinulate, pale brown or hyaline, rather thick-walled. Paraphyses clavate, septate, thick-walled, $36-50 \times 12-16\ \mu$.

Uredo Emiliae-zeylanicae n. sp.

On *Emilia zeylanica* Clarke, Hakgala, May, 1910.

Spots purple. Uredo sori pulvinate, pale brown, about 0.2 mm. diameter, in small groups on the under surface. Uredospores oval, $24-32 \times 15-17\ \mu$, pale brown, minutely spinulose, with short scattered spines. Paraphyses regularly clavate, pale brown, thin-walled, $40-50\ \mu$ long, $14\ \mu$ diameter above.

Uredo Desmodii-heterocarpi n. sp.

On *Desmodium heterocarpum* DC., Peradeniya, January 11, 1914.

Spots minute, angular, black, scattered, or confluent along the margin of the leaf. Uredo sori scattered, circular or slightly elongated, hypophyllous, ashy, about 0.1 mm. diameter. Uredospores pyriform, $18-20 \times 14-16\ \mu$, or globose, $16-18\ \mu$, hyaline, echinulate.

Uredo Desmodii-triquetri n. sp.

On leaves of *Desmodium triquetrum* DC., Peradeniya, January 11, 1914.

Sori hypophyllous, circular, scattered, ashy. No evident spots on the lower surface of the leaf, but minute blackening spots on the upper. Uredospores oval or pyriform, $20-24 \times 13-18\ \mu$, or subglobose, $14-16\ \mu$, hyaline, echinulate.

Uredo Desmodii-parvifolii n. sp.

On leaves of *Desmodium parvifolium* DC., Hakgala, May, 1912; April, 1914.

Sori hypophyllous, scattered, circular, 0.25 mm. diameter, or linear, up to 1 mm. $\times$ 0.3 mm., surrounded by the strongly upturned epidermis, dark brown. Uredospores rather dark brown, spinulose, globose, $16-19\ \mu$ diameter, wall $2\ \mu$ thick.

Uredo davaoensis Syd.

On *Cyanotis zeylanica* Hassk., Haputale, March, 1912 ; Hakgala, May, 1912.

Uredo Stereospermi Syd.

On *Stereospermum chelonoides* DC., Peradeniya, August, 1912.

Uredo Sopubiæ n. sp.

On *Sopubia trifida* Ham., Hakgala, May, 1912.

Sori oval, pulvinate, up to 0·2 mm. broad, covered by the epidermis, opening by an irregular pore, ferruginous on leaves and stems. Uredospores oval to subglobose, $12-24 \times 12-16 \mu$, echinulate, contents yellow, wall almost hyaline.

Uredo Rubiæ Diet.

On *Rubia cordifolia* L., Nuwara Eliya, August 12, 1913.

Uredo Erythrinæ-ovalifoliæ Petch.

On *Erythrina velutina* Willd., Peradeniya, February 2, 1913.

Uredo Lipocarp hæ Syd.

On *Lipocarpa argentea* Br., Peradeniya, May 23, 1915.

Uredo Andropogonis-zeylanici n. sp.

On *Andropogon zeylanicus* Nees., Hakgala, April, 1915.

Sori minute, orange, amphigenous, elongated, $0\cdot5 \times 0\cdot2$ mm., pulvinate. Uredospores ovoid or subglobose, contents orange, wall hyaline, echinulate, thick, $18-25 \times 16-20 \mu$.

Uredo Panici-montani n. sp.

On *Panicum montanum* Roxb., Peradeniya, April, 1909, &c. Spots narrow, elongated, ferruginous. Sori minute, hypophyllous, oval, up to 0·2 mm. long. Uredospores pale brown, echinulate, pyriform or oval, $19-25 \times 16-20 \mu$, or globose, 20μ .

Uredo ignobilis Syd.

On *Sporobolus diander* Beauv., Peradeniya, May 19, 1912 ; on *Sporobolus indicus* Br., Peradeniya, January 15, 1914.

Uredo Paspali-longiflori n. sp.

On *Paspalum longiflorum* Retz., Hakgala, May, 1912.

Sori minute, on either side of the leaf, but chiefly on the upper, pulvinate; spots pale brown. Uredospores chiefly globose, 16–34 μ , some broadly oval, 22–27 $\times$ 20–25 μ ; wall 2–3 μ thick, very minutely echinulate, hyaline to pale brown.

Uredo Paspali-Perrottetii n. sp.

On *Paspalum Perrottetii* Hk. f., Hakgala, May, 1912; April, 1915.

Sori minute, pulvinate, on either side of the leaf. Uredospores oval to subglobose, 19–24 $\times$ 14–21 μ or 16–18 μ , thick-walled, yellow-brown, minutely echinulate.

Uredo Cymbopogonis-polyneuri n. sp.

On *Cymbopogon polyneuros* Stapf., Gangaruwa, January 12, 1913; December 30, 1913.

Uredo sori linear, dark brown. Uredospores dark brown, rather thick-walled, echinulate, obovate or ellipsoid, 20–32 $\times$ 17–21 μ . Paraphyses short, capitate, almost hyaline, up to 40 μ long, head 16 μ diameter, apex thick-walled (up to 6 μ).

Uredo Kuhnii (Krüg.) Wakker & Went.

On *Saccharum spontaneum* L., Peradeniya, January 31, 1915.

Uromyces Isachnes n. sp.

Soris hypophyllis, rotundatis, obscure brunneis; uredosporis pyriformibus, ovalibus, vel subglobosis, fuligineo-brunneis, echinulatis, 18–24 $\times$ 16–18 μ ; teleutosporis pyriformibus, 18–16 μ , obscure brunneis, levibus, episporio crasso, pedicello dilute brunneo, 16 μ long.

Puccinia Eragrostidis n. sp.

Soris uredosporiferis, linearibus, 0.25–0.5 mm. long., hypophyllis, udo rubro-aurantiaco, sicco pallide brunneo; uredosporis globosis, dilute brunneis vel fere hyalinis, plasmate aurantiaco, episporio hyalino, echinulatis, 14–22 μ diam.

Soris teleutosporiferis nigris, rotundatis vel ovalibus, hypophyllis, 0.25×0.2 mm. Teleutosporis ovalibus vel oblongo-ovalibus, flavo-brunneis, apice saturatiore, plerumque rotundato, vix incrassato, basi sæpius rotundato, interdum subattenuato, leniter constrictis, levibus, $20-32 \times 15-17 \mu$; pedicello hyalino, oblique inserto, æquali vel subattenuato, $30-50 \times 3-5 \mu$.

Puccinia Vernoniæ-scariosæ n. sp.

Soris uredosporiferis hypophyllis, sparsis, rotundatis, ad 0.2 mm. diam.; uredosporis flavo-brunneis, spinulosis, ovalibus, $28-33 \times 24-26 \mu$, vel globosis, 25μ .

Teleutosporis hyalinis, irregulariter clavatis, apice rotundatis, loculo superiori episporio plerumque incrassato (ad 8μ), constrictis, $33-50 \times 18-24 \mu$ (sine pedicello), breviter pedicellatis.

Coleosporium Erythrinæ n. sp.

Maculis parvis, rotundatis, griseis, ad 5 mm. diam. Soris minutis, epiphyllis, sparsis, nigro-brunneis, ad 0.2 mm. diam. Teleutosporis dilute brunneis, cylindraceis, ovalibus, vel subclavatis, utrinque rotundatis, triseptatis, leniter constrictis, apice subincrassatis, $38-56 \times 16-18 \mu$. Uredosporis globosis, dilute brunneis, minute spinulosis, $17-20 \mu$ diam.

Chrysomyxa Bombacis n. sp.

Soris teleutosporiferis hypophyllis, pulvinatis, flavis, circa 0.25 mm. diam. Teleutosporis octo-ocularibus, ad $110 \times 16 \mu$, loculis cuboideis, circa $14 \times 16 \mu$, constrictis, episporio hyalino, plasmate flavo.

Æcidium Serpiculæ n. sp.

Æcidiis 0.25 mm. diam., hypophyllis, linea nigra cinetis, verrucis minutis insitis; pseudoperidio albo, angusto, recurvo; sporis per saturam aurantiacis; cellulis peridiis sub-hexagonis, $24-38 \times 16-18 \mu$, verrucis et lineis brevibus ornatis; æcidiosporis late ovalibus vel subglobosis, $16-18 \times 14-18 \mu$, levibus, exosporio hyalino.

***Æcidium Vernoniæ-Hookerianæ* n. sp.**

Maculis pallide flavo-viridibus, totum folium sæpe extensis ; æcidiis plerumque hypophyllis, sæpe dense confertis, 0·25–0·5 mm. diam. ; pseudoperidiis crassis, recurvis ; æcidiosporis ovoideis, $18-21 \times 13-15 \mu$, vel globosis, $16-21 \mu$, dense et minute verrucosis, episporio hyalino : cellulis pseudoperidiis pentagonis vel quadrangulis, $18-31 \times 15-25 \mu$, dense verrucosis, pariete crasso (4μ).

***Æcidium Vernoniæ-cinereæ* n. sp.**

Æcidiis hypophyllis, sparsis, 0·15 mm. diam., tubulosi ; æcidiosporis ovalibus vel globosis, minute verrucosis, $14-16 \times 8-12 \mu$; cellulis pseudoperidiis, polygonis, dense verrucosis, incrassatis, $20-32 \times 16-24 \mu$.

***Uredo Ophiorrhizæ* n. sp.**

Soris dilute aurantiacis, sparsis, hypophyllis, circa 0·2 mm diam., rotundatis ; uredosporis ovalibus vel subglobosis echinulatis, episporio hyalino, $16-22 \times 16 \mu$.

***Uredo Momordicæ* n. sp.**

Soris sparsis, amphigenis, obscure brunneis, plerumque rotundatis, ad 0·25 mm. diam. ; uredosporis ovalibus vel globosis, obscure brunneis, echinulatis, $30-34 \times 24-32 \mu$.

***Uredo Phyllanthi-longifolii* n. sp.**

Soris hypophyllis, sparsis vel congregatis, rotundatis, 0·25 mm. diam. ; uredosporis ovalibus vel pyriformibus, hyalinis, verrucosis, $20-28 \times 13-16 \mu$; paraphysibus hyalinis, clavatis, apice curvis vel rectis, pariete subtenui, ad 55μ long., infra 6μ diam., supra 12μ .

***Uredo Hyperici-mysorensis* n. sp.**

Maculis purpureo-rubris ; soris amphigenis, congregatis, aurantiacis, pulvinatis, rotundatis vel elongatis, ad $0·4 \times 0·2$ mm. ; uredosporis ovalibus vel globosis, minute echinulatis, episporio fere hyalino, $18-26 \times 16-18 \mu$; paraphysibus brevibus, subclavatis, vel capite globoso cylindraccis, apice incrassatis, $40-50 \times 6-8 \mu$.

Uredo Vernonicola n. sp.

Soris hypophyllis, sparsis, ferrugineis, sicco dilute brunneis, rotundatis, ad 0.4 mm. diam.; uredosporis globosis, 20–24 μ diam., vel ovalibus, 24–28 $\times$ 18–21 μ , echinulatis, episporio hyalino.

Uredo Vernoniæ-Hookerianæ n. sp.

Maculis rubro-brunneis; soris hypophyllis, minutis, sparsis; uredosporis globosis, 19–21 μ diam., vel ovalibus vel pyriformibus, 20–24 $\times$ 16–21 μ , echinulatis, dilute brunneis vel hyalinis, episporio crassiusculo; paraphysibus clavatis, septatis, pariete crasso, 36–50 $\times$ 12–16 μ .

Uredo Emilæ-zeylanicæ n. sp.

Maculis purpureis; soris pulvinatis, hypophyllis, dilute brunneis, congregatis, circa 0.2 mm. diam.; uredosporis ovalibus, 24–32 $\times$ 15–17 μ , dilute brunneis, minute echinulatis; paraphysibus clavatis, dilute brunneis, pariete tenui, 40–50 μ long., apice 14 μ diam.

Uredo Desmodii-heterocarpi n. sp.

Maculis minutis, angulatis, nigris, sparsis, vel margine foliorum confluentibus; soris sparsis, rotundatis vel subelongatis, hypophyllis, cinereis, circa 0.1 mm. diam.; uredosporis pyriformibus, 18–20 $\times$ 14–16 μ , vel globosis, 16–18 μ , hyalinis, echinulatis.

Uredo Desmodii-triquetri n. sp.

Maculis epiphyllis, nigris, minutis, hypophyllis nullis; soris hypophyllis, rotundatis, sparsis, cinereis; uredosporis ovalibus vel pyriformibus, 20–24 $\times$ 13–18 μ , vel subglobosis, 14–16 μ , hyalinis, echinulatis.

Uredo Desmodii-parvifolii n. sp.

Soris hypophyllis, sparsis, rotundatis, 0.25 mm. diam., vel linearibus, ad 1 $\times$ 0.3 mm., epidermide rupta cinctis, obscure brunneis; uredosporis obscure brunneis, echinulatis, globosis, 16–19 μ , episporio 2 μ crass.

Uredo Sopubiæ n. sp.

Soris foliicolis vel cauliculis ovalibus, pulvinatis, ad 0·2 mm. diam., epidermide tectis, poro irregulari dehiscentibus, ferrugineis; uredosporis ovalibus vel subglobosis, 12–14 × 12–16 μ , echinulatis, episporio fere hyalino.

Uredo Andropogonis-zeylanici n. sp.

Soris minutis, amphigenis, aurantiacis, elongatis, ad 0·5 × 0·2 mm., pulvinatis; uredosporis ovalibus vel subglobosis, echinulatis, incrassatis, 18–25 × 16–20 μ , episporio hyalino.

Uredo Panic-montani n. sp.

Maculis angustis, elongatis, ferrugineis; soris minutis, hypophyllis, ovalibus, ad 0·2 mm. long.; uredosporis dilute brunneis, echinulatis, pyriformibus vel ovalibus, 19–25 × 16–20 μ , vel globosis, 20 μ .

Uredo Paspali-longiflori n. sp.

Maculis dilute brunneis; soris minutis, amphigenis, præcipue epiphyllis; uredosporis plerumque globosis, 16–34 μ diam., raro late ovalibus, 22–27 × 20–25 μ , minute echinulatis, hyalinis vel dilute brunneis, episporio 2–3 μ crass.

Uredo Paspali-Perrottetii n. sp.

Soris minutis, amphigenis, pulvinatis; uredosporis ovalibus vel subglobosis, incrassatis, flavo-brunneis, minute echinulatis, 19–24 × 14–21 μ , vel 16–18 μ diam.

Uredo Cymbopogonis-polyneuri n. sp.

Soris linearibus, obscure brunneis; uredosporis obscure brunneis, obovatis vel ellipsoideis, 20–32 × 17–21 μ , episporio crassiusculo; paraphysibus brevibus, capitatis, fere hyalinis, ad 40 μ long., capite 16 μ diam., apice incrassatis (ad 6 μ).

PHYCOMYCETÆ.

Cystopus candidus (Pers.) Lev.

On *Brassica juncea* Hk. f. & Thoms., Badulla, January 27, 1917.

Cystopus platensis Speg.

On *Boerhaavia diffusa* L., Kalodai, April, 1908.

Cystopus Ipomœæ-panduratæ (Schw.).

On *Argyreia populifolia* Chois., Gangaruwa, June, 1910 ; Kandy, June, 1910.

Cystopus Bliti (Biv.) De Bary.

On *Achyranthes aspera* L., Jaffna, November, 1916.

Plasmopara viticola.

On *Vitis vinifera* L., Bandarawela, January, 1915.

PYRENOMYCETÆ.

*Perisporiaceæ.***Penicillioopsis clavariæformis** Solms.

On fruits of *Diospyros embryopteris* Pers., Peradeniya, December, 1913.

Penicillium Petchii Sartory and Bainier, Ann. Myc., XI., p. 272.

On scrap rubber, in the laboratory, Peradeniya, May, 1912. The locality is erroneously stated to be South America in the original description.

*Sphæriaceæ.***Fracchiæa depressa** n. sp.

Perithecia scattered or in small groups, developing within the bark and splitting off the outer layers, subglobose, depressed, circular or oval in plan, or angled by mutual pressure, up to 0·8 mm. diameter, united, or surrounded, by a basal web of brown hyphæ, black, minutely rugose, ostiolum not evident ; wall cellular, up to 0·1 mm. thick, collapsing when dry. Asci clavate, with a thin pedicel, strongly inflated upwards, $70-90 \times 10 \mu$, polysporous ; no paraphyses. Spores hyaline, curved, cylindric, or slightly tapering to the obtuse ends, $8-12 \times 2 \mu$.

On dead branches of *Hevea brasiliensis*, Hapugastenne, September, 1909 ; No. 2922 in Herb. Peradeniya.

Peritheciis sparsis vel congregatis, immersis dein subliberis, subglobosis, depressis, sicco collapsis, ad 0·8 mm. diam., nigris, minute rugosis, basi hyphis brunneis cinctis. ostiolo inconspicuo, pariete crasso. Ascis clavatis, stipite

tenui, sursum valde inflatis, multisporis, $70-90 \times 10 \mu$. Sporis hyalinis, cylindraceis, obtusis, curvatis. $8-12 \times 2 \mu$.

Calosphæria pachydermata n. sp.

Perithecia up to 1 mm. diameter, carbonaceous, thick-walled (0.15 mm.), united in groups up to 5 mm. diameter, sometimes distichous, immersed in the cortex; ostiola long, cylindric, equal, up to 2 mm. high, 0.1 mm. diameter, emerging in groups, mixed with barren stalks. Asci clavate, eight-spored, pedicel moderately long, $25 \times 4-5 \mu$; spores subcylindric, curved, greenish-hyaline, $4-5 \times 1.5-2 \mu$.

On dead bark, Henaratgoda, August, 1916; No. 4993 in Herb. Peradeniya.

Peritheciis ad 1 mm. diam., carbonaceis, pariete crasso ad 0.15 mm., cortice immersis, in gregibus ad 5 mm. diam. confluentibus, interdum distichis; ostiolis longis, cylindraceis, æqualibus, ad 2 mm. alt., 0.1 mm. diam., fasciculatim emergentibus, stipitibus sterilibus intermixtis; ascis clavatis, octosporis, infra attenuatis, $25 \times 4-5 \mu$; sporis subcylindraceis, curvis, viridi-hyalinis, $4-5 \times 1.5-2 \mu$.

Calosphæria sulcata n. sp.

Perithecia about 0.6 mm. diameter, globose, immersed, in small groups at the base of the cortex; ostiola up to 1.2 mm. long, 0.1 mm. diam., thickened above, and bearing four vertical grooves, converging and emerging in clusters. Asci eight-spored, clavate, with a tapering pedicel, $28-36 \mu$, sporiferous part $18-22 \times 6-8 \mu$; paraphyses very long; spores cylindric, curved, greenish-hyaline, $6-7 \times 1.5 \mu$.

On dead branches of *Hevea brasiliensis* Muell-Arg., Peradeniya, February, 1917; No. 4969 in Herb. Peradeniya.

Peritheciis circa 0.6 mm. diam., globosis, gregibus parvis basi corticis immersis; ostiolis ad 1.2 mm. long., 0.1 mm. diam., supra incrassatis et sulcis quatuor ornatis, convergentibus, emergentibus; ascis octosporis, infra attenuatis, $28-36 \times 6-8 \mu$, parte sporifera, $18-22 \mu$; paraphysibus longissimis; sporis cylindraceis, curvis, viridi-hyalinis, $6-7 \times 1.5 \mu$.

Myelosperma tumidum Syd.

On coconut midrib, Badalgama, January, 1912.

Læstadia Jasmini n. sp.

Spots circular, 3–4 mm. diameter, white, arid. Perithecia subepidermal, 0·1–0·2 mm. diameter, black. Asci clavate, eight-spored, spores biseriate, $54\text{--}56 \times 8\text{--}9 \mu$. Spores oval or subcymbiform, ends obtuse, hyaline, continuous, $12\text{--}15 \times 5\text{--}6 \mu$. On leaves of *Jasminum flexile* Vahl, Hakgala, September, 1913; No. 3828 in Herb. Peradeniya.

Maculis rotundatis, 3–4 mm. diam., albis, aridis, peritheciis subepidermalibus. 0·1–0·2 mm. diam., nigris; ascis clavatis, octosporis, sporis biseriatis, $54\text{--}56 \times 8\text{--}9 \mu$. Sporis ovalibus vel subcymbiformibus, obtusis, hyalinis, continuis, $12\text{--}15 \times 5\text{--}6 \mu$.

Læstadia Theæ Rac.

On leaves of tea, Mattakele, June 11, 1905, &c. Generally distributed.

Glomerella Musarum n. sp.

Perithecia superficial or erumpent, black, 100–120 μ diameter, ovate, shortly rostrate, membranous; asci clavate, $50\text{--}60 \times 10 \mu$, eight-spored, spores uni- or bi-seriate; no paraphyses; spores hyaline, continuous, cymbiform, straight or curved, ends obtuse, $14\text{--}18 \times 3\cdot5\text{--}4 \mu$. On leaves of *Musa paradisiaca* L., attacked by *Glæosporium Musarum* Cke. & Mass., *Scoleco-trichum Musæ* Zimm., &c., Panadure, June, 1916; No. 4805 in Herb. Peradeniya.

Peritheciis erumpentibus vel liberis, nigris, 100–120 μ diam., ovatis, breviter rostratis, membranaceis; ascis clavatis, $50\text{--}60 \times 10 \mu$, octosporis, sporis uni- vel bi-seriatis; sporis hyalinis, continuis, cymbiformibus, rectis vel curvatis, obtusis, $14\text{--}18 \times 3\cdot5\text{--}4 \mu$.

Sordaria grisea Ces.

Hakgala, May, 1912.

Sphærella Heveæ n. sp.

Perithecia gregarious, subepidermal, slightly elevated, black, 60–70 μ diameter; asci clavate, eight-spored, $30 \times 6 \mu$; no paraphyses; spores subfusoid or narrow oval, ends rounded, one-septate, slightly constricted, upper cell the larger, $9\text{--}10 \times 2\cdot5 \mu$. On leaves of *Hevea brasiliensis* Muell-Arg., with effete

acervuli of *Colletotrichum* sp. Spots at first minute, purple to purple-brown, somewhat thickened, afterwards forming dry irregular areas extending along the margin of the leaf, yellow-brown, becoming gray, with a purple-brown margin. Suduganga, October, 1916 ; No. 4922 in Herb. Peradeniya.

Peritheciis gregariis, subepidermalibus, subprominentibus, nigris, 60–70 μ diam. ; ascis clavatis, octosporis, 30 $\times$ 6 μ ; sporis subfusoides vel angusto-ovalibus, obtusis, uniseptatis, leniter constrictis, 9–10 $\times$ 2.5 μ .

Sphaerella Fragariae Tul.

On cultivated strawberry, Nuwara Eliya, December, 1905.

Venturia emergens n. sp.

Perithecia scattered, or crowded and confluent at the base, developing in the bark, and cracking off the outer layers ; groups of perithecia appearing in the cracks, but never completely free ; 0.2 mm. diameter, flask-shaped, with spreading setae on the upper half. Asci 40–50 $\times$ 8 μ , clavate, pedicel short, with a distinct foot, eight-spored, spores obliquely uniseriate ; paraphyses linear, longer than the ascus ; spores greenish-olive, narrow-oval, or subfusoid, ends rounded, one-septate, slightly constricted, upper cell rather larger, 8–10 $\times$ 4 μ . On dead branches of *Hevea brasiliensis* Muell-Arg., Lassahena, August, 1916 ; No. 4841 in Herb. Peradeniya.

Peritheciis sparsis, vel congregatis et basi confluentibus, in rimis corticis, 0.2 mm. diam., ampullaceis, setis patulis supra ornatis ; ascis clavatis, breviter pedicellatis, octosporis, sporis oblique uniseriatis ; paraphysibus linearibus, ascos superantibus ; sporis viridi-olivaceis, angusto-ovalibus vel subfusoides, obtusis, inequaliter uniseptatis, leniter constrictis, 8–10 $\times$ 4 μ .

Phaeosphaerella Theae n. sp.

Perithecia immersed, epiphyllous, black, minute, 80–100 μ diameter ; asci few, eight-spored, clavate, 50 $\times$ 12 μ ; no paraphyses ; spores fusoid, one-septate, constricted at the septum, pale brown, upper cell the larger and rounded at the apex, lower cell somewhat oblong and apex obtuse, 9–14 $\times$ 4–5 μ . On leaves of tea ; spots at first small, irregular, yellow, then angular, branching, gray-brown or gray, arid, with a

yellow-green margin, the centre cracking and dropping out, leaving holes often confluent and extending over the whole length of the leaf; Peradeniya, March, 1915; No. 4558 in Herb. Peradeniya.

Peritheciis immersis, epiphyllis, nigris, minutis, 80–100 μ diam.; ascis paucis, clavatis, octosporis, $50 \times 12 \mu$; sporis fusioideis, uniseptatis, loculo superiori majore, apice rotundato, inferiori sub-oblongo, apice obtuso, $9-14 \times 4-5 \mu$.

Leptosphaeria Musarum Sacc. & Berl.

On leaves of *Musa paradisiaca* L., Peradeniya, April, 1915.

Leptosphaeria Smilacis n. sp.

Perithecia erumpent, finally superficial, up to 0.4 mm. diameter, globose, ostiolum acute and black, elsewhere covered with a greenish-yellow granular or rugose layer, becoming brown, then black, scattered, or in groups of four to six; asci clavate, pedicel short, truncate, apex and lateral walls towards the apex thickened, $100-135 \times 12 \mu$, spores biseriate; spores narrow-oval, slightly curved, three-septate, slightly constricted, $20-25 \times 4.5-5 \mu$. Causing witches' brooms on *Smilax aspera* L., Hakgala, April, 1915; No. 4640 in Herb. Peradeniya.

Peritheciis erumpentibus, tandem superficialibus, ad 0.4 mm. diam., globosis, ostiolo acuto nigro, alibi viridi-flavis granulosis vel rugosis, brunnescentibus, tandem nigris, sparsis vel 4–6 congregatis; ascis clavatis, breviter pedicellatis, truncatis, supra pariete incrassato, $100-135 \times 12 \mu$, sporis biseratis; sporis angusto-ovalibus, subcurvatis, triseptatis, leniter constrictis, $20-25 \times 4.5-5 \mu$.

Ceratostomaceæ.

Ceratostoma australe Speg.

Hakgala, May, 1910.

Xylariaceæ.

Poronia minuta n. sp.

Total height up to 1.5 mm.; head 0.5–1.5 mm. diameter, irregularly globose, slightly flattened, ostiola prominent, white or brownish-white, minutely tomentose, internally reddish-brown; stalk up to 0.5 mm. high, 0.3 mm. diameter.

Perithecia scattered; oval, 0.4×0.2 mm.; asci clavate, $110 \times 12-14$ μ , spores uniseriate or obliquely uniseriate; spores black-brown, opaque, narrow-oval, slightly inequilateral, ends obtuse, $14-18 \times 6-8$ μ , with a hyaline coat, 1 μ thick, not evident on extruded spores. On hare's dung, Peradeniya, September, 1912, &c.; No. 3584 in Herb. Peradeniya.

Ad 1.5 mm. alt.; capite 0.5-1.5 mm. diam., irregulariter globoso, sub-applanato, ostiolis prominentibus, albo vel brunneo-albo, minute tomentoso, intus rubro-brunneo; stipite ad 0.5 mm. alt., 0.3 mm. diam. Peritheciis sparsis, ovalibus, 0.4×0.2 mm.; ascis clavatis, $110 \times 12-14$ μ , sporis uniseriatis vel oblique uniseriatis; sporis nigro-brunneis, angusto-ovalibus, sub-inequilateralibus, obtusis, $14-18 \times 6-8$ μ .

Poronia macrorhiza Speg.

Hakgala, December, 1905.

Valsaceæ.

Thyridium flavum n. sp.

Stroma yellow, 0.5 mm. thick, several mm. long and broad, embedded in the cortex, composed of yellow hyphæ and cortical tissue. Perithecia rather distant, globose, 0.3 mm. diameter; wall thin, brown, membranous, collapsing when dry and easily removed from the stroma; ostiola conical, not projecting, scattered, not converging. Asci cylindric, eight-spored, sporiferous part 80×10 μ . Paraphyses numerous. Spores muriform, with three transverse and one longitudinal septa, thick-walled, oblong-oval, blackish fuliginous with black septa, or almost opaque, $16-20 \times 8-10$ μ . Pycnidia superficial, gregarious, confluent below, subglobose or ovoid, black, thick-walled, wall yellow internally; spores minute, linear, hyaline, $3-4 \times 1$ μ .

On dead branches of *Hevea brasiliensis* Muell-Arg., Peradeniya, February, 1917; No. 4968 in Herb. Peradeniya.

Stromatibus flavis, 0.5 mm. crass., multis mm. long. et lat., cortice immersis, hyphis flavis et cellulis corticis compositis; peritheciis subremotis, globosis, 0.3 mm. diam., sicco facile separabilibus, pariete tenui, membranaceo, brunneo, sicco collapsio, ostiolis conicis, immersis, non convergentibus; ascis

cylindraceis, octosporis, parte sporifera $80 \times 10 \mu$; paraphysibus numerosis; sporis oblongo-ovalibus, episporio crasso, muriformibus, transverse triseptatis, longitudinaliter uniseptatis, nigro-fuligineis, septis nigris, vel fere opacis, $16-20 \times 8-10 \mu$. Pycnidiis superficialibus, gregariis, basi confluentibus, subglobosis vel ovalibus, nigris, pariete crasso, interne flavo; sporis bacillaribus, hyalinis, $3-4 \times 1 \mu$.

Dothidaceæ.

Phyllachora Glycosmidis n. sp.

Stromata circular, up to 2 mm. diameter, multilocular, loculi up to 0.3 mm. diameter, ostiola not projecting; asci cylindric, about $100 \times 6 \mu$, with a long pedicel, spores obliquely uniseriate; spores oblong-oval, ends rounded, hyaline, continuous, $8-12 \times 4-5 \mu$. On leaves of *Glycosmis pentaphylla* Corr., Nalanda, May, 1912; No. 3564 in Herb. Peradeniya.

Stromatibus rotundatis, ad 2 mm. diam., multilocularibus, loculis ad 0.3 mm. diam., ostiolis non prominentibus; ascis cylindraceis, circa $100 \times 6 \mu$, longe pedicellatis, sporis oblique uniseriatis; sporis oblongo-ovalibus, obtusis, hyalinis, continuis, $8-12 \times 4-5 \mu$.

Phyllachora Hibisci Rehm.

On *Hibiscus furcatus* Roxb., Peradeniya, July, 1910.

Phyllachora Andropogonis Karst. & Har.

On *Cymbopogon confertiflorus* Stapf., Hakgala, April, 1915.

Microcyclus Walsuræ Syd.

On *Walsura piscidia* Roxb., Peradeniya, February, 1914.

Phæodothis sparsa n. sp.

Stromata epiphyllous, on small yellowish spots, usually solitary, irregularly oval, $0.5-0.9 \times 0.3-0.4$ mm., pulvinate, two to four locular, ostiola not projecting. Asci clavate, eight-spored, spores obliquely uniseriate below, biseriate above, sporiferous part $40-60 \times 9-10 \mu$. Spores oblong-oval,

ends truncate, unequally one-septate, not constricted, blackish-green, $8-10 \times 4-5 \mu$. Conidia black, lenticular, circular or angular, $4-5 \mu$ diameter. On leaves of *Acacia cæsia* Willd., Peradeniya, August, 1913. No. 3681 in Herb. Peradeniya.

Maculis parvis, flavis; stromatibus epiphyllis, sæpius solitariis, irregulariter ovalibus, $0.5-0.9 \times 0.3-0.4$ mm., pulvinatis, 2-4-ocularibus, ostiolis inconspicuis. Ascis clavatis, octosporis, parte sporifera, $40-60 \times 9-10 \mu$. Sporibus oblongo-ovalibus, truncatis, inequaliter uniseptatis, non constrictis, fusco-viridibus, $8-10 \times 4-5 \mu$. Conidiis nigris, lenticularibus, rotundatis vel angulatis, $4-5 \mu$ diam.

Rhopographella Ochlandræ n. sp.

Stromata clustered on yellow areas, chiefly hypophyllous, minute, about 0.4 mm. diameter, erumpent, black, rugose, pulvinate, perithecia sometimes subprominent, ostiola not projecting, perithecia about 0.1 mm. diameter, two or three in each stroma; asci broadly clavate, or oval, thick-walled, 4 (?) spored, spores in a parallel bundle; spores fusoid or subcymbiform, hyaline, three-septate, not constricted, $28-36 \times 3 \mu$. Paraphyses short, flexuose, linear. Some stromata contain pycnosporos, hyaline, falcate, or variously curved, three-septate, $32-70 \times 3 \mu$. On living leaves of *Ochlandra stridula* Thw., Gikiyanakande, June, 1916; No. 4801 in Herb. Peradeniya.

Stromatibus maculis flavis congregatis, sæpius hypophyllis, erumpentibus, nigris, rugosis, pulvinatis, peritheciis interdum subprominentibus, ostiolis non prominentibus; peritheciis circa 0.1 mm. diam., 2-3 in quoque stromate; ascis late clavatis vel ovalibus, pariete crasso, 4 (?) sporis, sporis parallelis; sporis fusoides vel subcymbiformibus, hyalinis, triseptatis, $28-36 \times 3 \mu$. Paraphysibus linearibus, flexuosis, brevibus. Pycnosporis hyalinis, falcatis, vel varie curvatis, triseptatis, $32-70 \times 3 \mu$.

Hypocreaceæ.

Hyponectria Embeliæ n. sp.

Spots reddish orange, usually circular, up to 2 cm. diameter, dotted with minute translucent ostiola. Perithecia totally

immersed, scattered, ovoid or subglobose, conical above, 0.4 mm. high, 0.25–0.3 mm. diameter, wall hyaline, ostium not projecting, opening on the upper surface. Asci cylindric, shortly pedicellate, eight-spored, spores uniseriate, often transverse, $100\text{--}120 \times 10\text{--}14 \mu$. Paraphyses linear, numerous. Spores broadly oval, hyaline, continuous, rather thick-walled, $10\text{--}12 \times 7\text{--}8 \mu$.

On leaves of *Embelia viridiflora* Scheff., Hakgala, May, 1913, &c.; No. 3107 in Herb. Peradeniya.

Maculis rubro-aurantiacis, rotundatis, ad 2 cm. diam., ostiis minutis, pellucidis punctatis. Peritheciis immersis, sparsis, ovalibus vel subglobosis, supra conicis, 0.4 mm. alt., 0.25–0.3 mm. diam., pariete hyalino, ostiolo epiphyllis; ascis cylindratis, breviter pedicellatis, octosporis, sporis uniseriatis, sæpe transversis, $100\text{--}120 \times 10\text{--}14 \mu$; paraphysibus linearibus, numerosis; sporis late ovalibus, hyalinis, continuis, episporio crassiusculo, $10\text{--}12 \times 7\text{--}8 \mu$.

***Neocosmospora vasinfecta* Sm.**

On *Indigofera* sp., Peradeniya, November, 1909.

***Melanospora parasitica* Tul.**

On *Cephalosporium* on *Icerya purchasi* on *Acacia decurrens*, Ambawela, January, 1917.

***Nectria striatospora* Zimm.**

On cacao, *Albizzia*, &c., common.

***Nectria* (*Cosmospora*) *Rickii* Rehm.**

On *Ustilina zonata* Lev., Peradeniya, August, 1909; Dehiowita, 1911; Hakgala.

***Hypomyces flavo-lanatus* n. sp.**

Perithecia orange-yellow, globose, 150–200 μ diameter, clothed with radiating yellow hyphæ, crowded on a thin white subiculum; ostium papillate, dark red. Asci eight-spored, spores uniseriate, up to $70 \times 4 \mu$. Spores greenish hyaline, oval, sometimes slightly attenuated towards one end, one-septate, slightly constricted, ends rounded, very minutely warted, $6\text{--}8 \times 2.5\text{--}3 \mu$. Conidial stage stilboid, up to 1.2

mm. high ; stalk orange-yellow, 40 μ diameter below, tapering upwards, rather loosely built, often arising from a tuft of suberect yellow hyphæ, sometimes Isarioid ; head globose, hyaline, up to 100 μ diameter ; conidiophores penicillioid ; conidia subglobose, hyaline, 2.5 μ diameter.

On a *Poria*, Peradeniya, December, 1916 ; No. 4938 in Herb. Peradeniya. Also on *Trichia botrytis*, Hakgala.

Subiculo albo, tenui ; peritheciis confertis, aurantiacis, globosis, 150–200 μ diam., hyphis flavis radiantibus vestitis, ostiolo papillato fusco-rubro. Ascis octosporis, sporis uniseriatis, ad $70 \times 4 \mu$. Sporis viridi-hyalinis, ovalibus, interdum attenuatis, uniseptatis, leniter constrictis, obtusis, minutissime verrucosis, $6-8 \times 2.5-3 \mu$. Statu conidiophoro stilboideo, ad 1.2 mm. alt. ; stipite aurantiaco, basi 40 μ diam., sursum attenuato, laxo ; capitulo globoso, ad 100 μ diam. ; conidiophoris penicillioideis ; conidiis subglobosis hyalinis, 2.5 μ diam.

Podocorea zeylanica n. sp.

Stromata clustered, simple, clavate, or cylindric, sometimes compressed, apex often irregularly lobed, up to 3 cm. high, 4 mm. diameter, rufous or pale brown, ostiola darker, pallid towards the base, glabrous. Perithecia crowded, up to 0.25 mm. diameter ; asci 60–80 $\times$ 3–4 μ , cylindric, eight-, then sixteen-spored ; part-spores white in mass, greenish hyaline when mounted, globose, 3–4 μ diameter, or oval, $3.5 \times 2.5 \mu$, faintly warted. On decaying stumps, Peradeniya, July, 1912, &c. ; No. 4573 in Herb. Peradeniya.

Stromatibus fasciculatis, simplicibus, clavatis, vel cylindræis, interdum compressis, supra sæpe lobatis, ad 3 cm. alt., 4 mm. diam., rufis vel pallide brunneis, ostioliis saturatoribus, basi pallescentibus, glabris. Peritheciis confertis, ad 0.25 mm. diam. ; ascis 60–80 $\times$ 3–4 μ , cylindraceis, octo- dein sexdecim-sporis ; sporis viridi-hyalinibus, globosis, 3–4 diam., vel ovalibus, $3.5 \times 2.5 \mu$, leniter verrucosis.

Cordyceps coccinea Penz. & Sacc.

Hakgala, October, 1914.

*Microthyriaceæ.***Vizella guaranitica** Speg.

On bamboo, Hakgala, April, 1915.

*Lophiostomaceæ.***Schizostoma applanata** n. sp.

Perithecia scattered or gregarious, black, shining, smooth, 1-1.5 mm. diameter, with a flattened crest, 0.25 mm. high, oval in outline when viewed from above, 0.3 mm. broad in the centre, tapering to either end, extending completely across the perithecium and often projecting on either side. Asci clavate, apex rounded, with a long tapering pedicel, spores biseriata, $126-136 \times 10-11 \mu$; sporiferous part $64-80 \times 10-11 \mu$. Paraphyses numerous, linear, branched. Spores dark brown, fusiform, ends acute and sometimes contracted, one-septate, constricted slightly at the septum, appearing three-septate through the shrinkage of the cell contents from each end for a distance of about 3μ , $20-27 \times 5-6 \mu$. On dead wood, Hakgala, September, 1908; No. 2848 in Herb. Peradeniya.

Peritheciis sparsis vel confertis, nigris, nitentibus, levibus, 1-1.5 mm. diam.; ostiolo applanato, ovali, medio 0.3 mm. crasso, transverso, sæpe utrinque prominenti. Ascis clavatis, apice obtuso, longe pedicellatis, sporis biserialis, $126-136 \times 10-11 \mu$; parte sporifera $64-80 \times 10-11 \mu$. Paraphysibus numerosis, linearibus, ramosis. Sporis fuscobrunneis, fusiformibus, acutis, uniseptatis, parum constrictis, spurie triseptatis, $20-27 \times 5-6 \mu$.

*Hysteriaceæ.***Lembosia Pavettæ** Theiss.

On *Pavetta indica* L., Peradeniya, December, 1911.

DISCOMYCETÆ.

Geoglossum hirsutum f. *americana* Durand.

Peradeniya, November, 1908; July, 1909.

Peizizella glaberrima Penz. & Sacc.

Hakgala, September, 1908.

Erinella bogoriensis Henn. & Nym.

Peradeniya, December, 1914 (det. G. Bryce).

Karschia nigerrima subsp. **globuligera** Penz. & Sacc.

On palm midrib, Peradeniya, December, 1914 (det. G. Bryce).

Exoaseus deformans Fekl.

On peach, Hakgala, August, 1908.

Taphrina Laurencia Giesenh.

Common on *Pteris quadriaurita* Retz., Hakgala.

Taphrina cornu-cervi Giesenh.

On *Aspidium aristatum* Sw., Hakgala, May, 1913.

MYXOMYCETÆ.

Diderma subdictyospermum Lister.

Peradeniya, July, 1912.

Diderma arboreum G. Lister & Petch.

On jak trees, Peradeniya; recorded previously under *Diderma rugosum* in Ann. Perad., IV., p. 345.

Diachæa radiata G. Lister & Petch.

Trincomalee, 1910.

Hemitrichia Karstenii Lister.

Hakgala, May, 1913. Previously recorded by Lister from Thwaites' collection.

Arcyria denudata Sheldon.

This species has been found to arise from yellow plasmodium on two occasions in the same locality at Hakgala.

PLASMODIOPHORÆ.

Plasmodiophora Brassicæ Wor.

Common on cultivated cabbage, Nuwara Eliya.

DEUTEROMYCETÆ.

*Sphærioidaceæ.***Phyllosticta Resedæ** n. sp.

Spots white or brownish-white, dry, membranous, orbicular, usually extending from the margin of the leaf. Pycnidia scattered, or arranged in concentric lines, 130–180 μ diameter, black, ostiolate, prominent, hypophyllous; spores oblong-oval, hyaline, ends rounded, $7-10 \times 2.5 \mu$. On leaves of *Reseda odorata* L., Hakgala, October, 1914; No. 4699 in Herb. Peradeniya.

Maculis albis, vel brunneo-albis, aridis, membranaceis, orbicularibus; pycnidiis sparsis, vel concentricè dispositis, 130–180 μ diam., nigris, prominentibus, hypophyllis; sporis oblongo-ovalibus, hyalinis, obtusis, $7-10 \times 2.5 \mu$.

Phyllosticta Violæ Desm.

On *Viola odorata* L., Peradeniya, March, 1907.

Phyllosticta Sapotæ Sacc.

On *Achras Sapota* L., Peradeniya, November, 1914.

Phyllosticta Piperis Tassi.

On leaves of *Piper Betle* L., Madulsima, March, 1915.

Phoma Murrayæ n. sp.

Spots pale brown, bordered by a purple line, membranous, usually extending from the edge of the leaf. Pycnidia black, scattered, prominent, about 125 μ diameter; spores broadly oval, ends obtuse, $7-11 \times 4-6 \mu$. On leaves of *Murraya Koenigii* Spreng., Peradeniya, January, 1915; No. 4453 in Herb. Peradeniya.

Maculis pallide brunneis, margine purpureis, membranaceis; pycnidiis nigris, sparsis, prominentibus, circa 125 μ diam.; sporis late ovalibus, obtusis, $7-11 \times 4-6 \mu$.

Phoma cocoicola n. sp.

Spots irregular, gray in the centre, brown towards the margin. Pycnidia lenticular, subepidermal, then erumpent, irregularly circular, scattered or confluent, up to 140 μ diameter; ostiolum 20 μ diameter, not projecting; spores

fusoid, ends acute, $3-5 \times 1 \mu$. On leaves of *Cocos nucifera* L., December, 1914 ; No. 4400 in Herb. Peradeniya.

Maculis irregularibus, centro griseis, marginem versus brunneis ; pycnidiis lenticularibus, subepidermalibus, dein erumpentibus, irregulariter rotundatis, sparsis vel confluentibus, ad 140μ diam. ; ostiolo 20μ diam., non prominentibus ; sporis fusoides, acutis, $3-5 \times 1 \mu$.

Phoma insidiosa Tass.

On fruits of *Sorghum vulgare* Pers., Peradeniya, October, 1914.

Phoma Camelliæ Cke.

On leaves of tea, Ratnapura, February, 1915 ; Pelmadulla, February, 1915.

Macrophoma Musæ (Cke.) Berl. & Vogl.

On plantain fruits, Peradeniya, February, 1915.

Macrophoma theicola n. sp.

Pycnidia immersed, scattered, or clustered, elevating and cracking the outer layers of the cortex irregularly when mature, 0.25 mm. diameter, black, thin-walled, ostiolum about 25μ diameter, not projecting ; spores narrow-oval or fusoid, ends obtuse or subtruncate, hyaline, continuous, $27-32 \times 5-7 \mu$.

On stems of tea, Kalutara, February, 1917 ; No. 4967 in Herb. Peradeniya.

Pycnidiis immersis, sparsis vel congregatis, 0.25 mm. diam., nigris, pariete tenui, ostiolo circa 25μ diam., non prominenti ; sporis angusto-ovalibus vel fusoides, obtusis vel subtruncatis, hyalinis, continuis, $27-32 \times 5-7 \mu$.

Aposphaeria Heveæ n. sp.

Pycnidia globose, ostiolum conical, or oval, black, minutely rugose, 0.15-0.2 mm. diameter, clustered in cracks in the cortex, arising from a thin immersed black stroma. Wall stout, cellular ; basidia simple, short, up to 12μ long ; spores narrow-oval, hyaline, continuous, thin-walled, $8-12 \times 3-4 \mu$, a few broadly oval, $6 \times 4 \mu$.

In the cortex of exposed lateral roots of *Hevea brasiliensis* Muell.-Arg., February, 1917 ; No. 4964 in Herb. Peradeniya.

Pycnidiis globosis, ostiolo conico, vel ovalibus, nigris, minute rugosis, pariete crasso, celluloso, in rimis corticis congregatis, stromate nigro tenui immerso oriundis ; basidiis simplicibus, brevibus, ad 12 μ . alt. ; sporidiis angusto-ovalibus, hyalinis, continuis, episporio tenui, 8-12 $\times$ 3-4 μ , paucis late ovalibus, 6 $\times$ 4 μ .

Sphæronema nigrum n. sp.

Pycnidia black, superficial, globose, 0.3 mm. diameter, with an ostiolum, 1-1.25 mm. long, 20-40 μ diameter, hyaline and fimbriate at the apex. Spores subglobose, hyaline, 5-6 μ diameter.

On roots of tea, Mahawale, March, 1909 ; No. 2857 in Herb. Peradeniya.

Pycnidiis nigris, superficialibus, globosis, 0.3 mm. diam. ; ostiolo 1-1.25 mm. alt., 20-40 μ diam., apice hyalino, fimbriato ; sporis subglobosis, hyalinis, 5-6 μ diam.

Cicinnobolus quercinus Syd.

On *Oidium quercinum* on *Quercus pedunculata*, Hakgala.

[*Cicinnobolus* spp. are very common on *Oidia* in Ceylon.]

Sirothecium globosum n. sp.

Pycnidia superficial, black, spherical, 0.3 mm. diameter, glabrous, not ostiolate ; wall black, opaque ; conidia pale fuscous, oval, 4-6 $\times$ 3-3.5 μ . On dead tobacco stem, Peradeniya, June, 1915 ; No. 4691 in Herb. Peradeniya.

Pycnidiis superficialibus, nigris, globosis, 0.3 mm. diam., glabris, non ostiolatis ; pariete nigro, opaco ; conidiis pallide fuscis, ovalibus, 4-6 $\times$ 3-3.5 μ .

Haplosporella crypta n. sp.

Stroma within the bark, spreading indefinitely, black, thin, chambered ; loculi up to 0.2 mm. diameter ; spores extruded in black pulvinate masses through cracks in the outer bark, black-brown, oval, 5-6 $\times$ 3-4 μ , rarely globose, 4 μ diameter. On dead *Hevea* bark, Lassahena, August, 1916 ; No. 4862 in Herb. Peradeniya.

Stromatibus in cortice immersis, indeterminatis, nigris, tenuibus, locularibus; loculis ad 0.2 mm. diam.; conidiis nigro-brunneis, ovalibus, $5-6 \times 3-4 \mu$, raro globosis, 4μ diam.

Botryodiplodia Sorghi P. Henn.

On fruits of *Sorghum vulgare* Pers., Peradeniya, October, 1914.

Ascochyta Pisi Lib.

On *Pisum sativum* L., Nuwara Eliya, December, 1905.

Ascochyta Heveæ n. sp.

Pycnidia totally immersed, not beaked, ostiolate, black, 60-100 μ diam.; spores oblong-oval, hyaline, one-septate, not constricted, ends obtuse, $9-12 \times 5 \mu$. On leaves of *Hevea brasiliensis* Muell-Arg., Henaratgoda, August, 1916; No. 4864 in Herb. Peradeniya. Affected areas marginal, extending along the edge of the leaf, sometimes nearly all round, brownish-white; margin red-brown, narrow.

Pycnidiis toto immersis, erostratis, ostiolatis, nigris, 60-100 μ diam.; sporidiis oblongo-ovalibus, hyalinis, uniseptatis, non constrictis, obtusis, $9-12 \times 5 \mu$.

Septoria Petroselini Desm.

On celery, Hakgala, January, 1914.

Septoria Dianthi Desm.

On leaves of carnation, Hakgala, April, 1915.

Septoria nesodes Kalch.

On *Hydrocotyle asiatica* L., Bandarawela, August, 1916. Pycnidia chiefly hypophyllous; spores lanceolate, subacute, straight or flexuose, 3-5-septate, $34-50 \times 3.5-4 \mu$.

Septoria Arisæmæ n. sp.

Spots transparent. Pycnidia epiphyllous, black, prominent, about 0.1 mm. diameter; ostiolum not projecting, 40 μ diameter. Spores linear, equal, ends obtuse, hyaline, three-septate, $30-38 \times 1.5-2 \mu$, extruded in a small column.

On leaves of *Arisæma Leschenaultii* Bl., Hakgala, September, 1908 ; No. 2799 in Herb. Peradeniya.

Maculis pellucidis ; pycnidiis epiphyllis, nigris, prominentibus, circa 0·1 mm. diam. ; ostiolo 40 μ diam. ; sporis linearibus, æqualibus, obtusis, hyalinis, 3-septatis, 30–38 $\times$ 1·5–2 μ .

Septoria cocoes n. sp.

Spots irregular, gray in the centre, brown towards the margin. Pycnidia lenticular, circular, subepidermal, about 100 μ diameter, ostiolum 10 μ diameter, not projecting ; spores fusoid, straight, hyaline, ends acute, 1–3-septate, 12–16 $\times$ 2 μ . On leaves of *Cocos nucifera* L., December, 1914 ; No. 4399 in Herb. Peradeniya.

Maculis irregularibus, centro griseis, marginem versus brunneis ; pycnidiis lenticularibus, rotundatis, subepidermalibus, circa 100 μ diam., ostiolo 10 μ diam., non prominente ; sporis fusoides, rectis, hyalinis, acutis, 1–3-septatis, 12–16 $\times$ 2 μ .

Phlyctæna Heveæ n. sp.

Pycnidia 0·15 mm. diameter, flattened pulvinate, black, smooth, simple, scattered, opening by a circular pore ; spores hyaline, continuous, linear, usually curved at one end, 17–24 $\times$ 1·5–2 μ .

On branches of *Hevea brasiliensis*, in cracks in the bark, becoming superficial, Arampola, December, 1911 ; No. 3279 in Herb. Peradeniya.

Pycnidiis 0·15 mm. diam., depresso-pulvinatis, nigris, levibus, simplicibus, sparsis, ostiolo rotundato ; sporis hyalinis, linearibus, plerumque uno apice curvatis, 17–24 $\times$ 1·5–2 μ .

Phlyctæna anomala n. sp.

[Pycnidia erumpent, black, pulvinate, oval, up to 0·5 $\times$ 0·3 mm. and 0·25 mm. high, with one or two cylindrical ostiola, up to 0·2 mm. high, 0·1 mm. diameter ; wall stout above, thin at the base ; spores hyaline, linear, uncinatæ at one end or almost straight, 12–15 $\times$ 1 μ , issuing in a white tendril. On dead bark of *Theobroma cacao* L., Uganda, April, 1915 (per W. Small) ; No. 4641 in Herb. Peradeniya.

Pycnidiis erumpentibus, nigris, pulvinatis, ovalibus, ad 0.5×0.3 mm., 0.25 mm. alt.; ostiolis unis vel duobus, cylindraceis, ad 0.2 mm. alt., 0.1 mm. diam.; pariete supra crasso, infra tenui; sporis hyalinis, linearibus, uncinatis vel fere rectis, $12-15 \times 1 \mu$.]

Nectrioidaceæ.

***Ampullaria succinea* n. sp.**

Pycnidia superficial, globose, 0.3 mm. diameter, white, then amber, clothed with white, spreading or intertwined hairs; ostiolum 0.4 mm. high, 70μ diameter, tapering slightly upward, mouth fimbriate; spores extruded in a black mass, broadly oval, usually biapiculate, blackish-gray, $15-20 \times 11-13 \mu$. On decaying fruits of *Musa paradisiaca* L., Peradeniya, March, 1915; No. 4540 in Herb. Peradeniya. Also on fruits of *Hevea brasiliensis*, Peradeniya, July, 1916; No. 4817 in Herb. Peradeniya.

Pycnidiis superficialibus, globosis, 0.3 mm. diam., albis, dein succineis, hyphis patulis vel intertextis albis vestitis; ostiolis 0.4 mm. alt., 70μ diam., sursum leniter attenuatis, apice fimbriatis; sporis nigro-griseis, late ovalibus, plerumque biapiculatis, $15-20 \times 11-13 \mu$.

***Ciliospora gelatinosa* Zimm.**

On hevea bark, High Walton, March, 1910, &c.

Melanconiaceæ.

***Glœosporium Musarum* Cke. & Mass.**

On plantain leaves and fruits, Peradeniya, February, 1915, &c.

***Glœosporium Psidii* Delacr.**

On fruits of guava, Colombo, August, 1907.

***Glœosporium Mangæ* Noack.**

On fruits of mango, Kalkudah, July, 1909.

***Glœosporium coffeanum* Delacr.**

On *Coffea robusta*, Akuressa, January, 1912, &c.

Colletotrichum Crotalariae n. sp.

Spots irregular, pale ochraceous with a grayish-brown margin. Acervuli epiphyllous, minute, black, circular, 0.1–0.2 mm. diameter. Setæ up to 70 μ long, 4 μ diameter at the base, tapering to the apex. Conidia cylindric, ends rounded, hyaline, continuous, $12-16 \times 5 \mu$.

On leaves of *Crotalaria striata* DC., Peradeniya, December, 1916; No. 4936 in Herb. Peradeniya.

Maculis irregularibus, pallide ochraceis, margine griseo-brunneo; acervulis epiphyllis, minutis, nigris, rotundatis, 0.1–0.2 mm. diam.; setis ad 70 alt., 4 diam., sursum attenuatis; conidiis cylindraceis, obtusis, hyalinis, $12-16 \times 5 \mu$.

Colletotrichum incarnatum Zimm.

On diseased cacao pods. Common.

Colletotrichum Camelliae Mass.

On tea. Common.

Colletotrichum orchidearum Allesch.

On leaves of orchid (cult.), Hindugala, May, 1916.

Colletotrichum Funtumiae n. sp.

Spots irregularly circular, brown with a gray centre, ultimately falling out. Acervuli amphigenous, black, peritheciiform, about 0.1 mm. diameter. Setæ black, paler towards the tip, septate, tapering, somewhat nodulose, $25-50 \times 3 \mu$. Conidia oval or cylindric, $10-14 \times 3-4 \mu$.

On leaves of *Funtumia elastica* Stapf., Peradeniya, August, 1913; No. 4201 in Herb. Peradeniya.

Maculis irregulariter rotundatis, brunneis, centro griseo, tandem secedentibus; acervulis amphigenis, nigris, peritheciiformibus circa 0.1 mm. diam.; setis nigris, apice dilutiore, septatis, attenuatis, nodulosis, $25-50 \times 3 \mu$; sporis ovalibus vel cylindraceis, $10-14 \times 3-4 \mu$.

Colletotrichum Piperis n. sp.

Spots large, angular, black, becoming gray, surrounded by a yellow-green zone. Acervuli minute, ochraceous or pinkish ochraceous, on either side of the leaf; conidia $12-19 \times$

3.5–4.5 μ ; setæ tapering, somewhat irregular, apex blunt, varying from $24 \times 3 \mu$ to $100 \times 4 \mu$. On *Piper Betle* L., Madulsima, March, 1915; No. 4544 in Herb. Peradeniya. Also on *Piper nigrum* L., Peradeniya.

Maculis magnis, angulatis vel rotundatis, nigris, canescentibus, margine flavo-viridi; acervulis minutis, ochraceis vel rubro-ochraceis, amphigenis; conidiis $12-19 \times 3.5-4.5 \mu$; setis attenuatis, irregularibus, obtusis, $24 \times 3 \mu-100 \times 4 \mu$.

Colletotrichum Urenæ n. sp.

Spots red-brown, becoming black, angular. Acervuli epiphyllous, minute, black, about 100 μ diameter; setæ up to 55 μ long, 4 μ diameter at the base, conical, acute, irregular, blackish-brown; conidia cylindric, ends rounded, $10-14 \times 4 \mu$. On living leaves of *Urena lobata* L., Peradeniya, June, 1915; No. 4679 in Herb. Peradeniya.

Maculis rubrobrunneis, nigrescentibus, angulatis; acervulis epiphyllis, minutis, nigris, circa 100 μ diam.; setis ad 55 μ long., basi 4 μ diam., conicis, acutis, irregularibus, nigro-brunneis; conidiis cylindraceis, obtusis, $10-14 \times 4 \mu$.

Melanconium Dendrocalami n. sp.

Acervuli circular or oval, up to 1.2×0.8 mm., covered for a long time by the epidermis; conidia oval, $22-30 \times 14-20 \mu$, or circular $20-24 \mu$, compressed, black-brown, thin-walled, often with a pale line on one edge. On sheaths of *Dendrocalamus giganteus* Munro, Peradeniya, November, 1914; No. 4335 in Herb. Peradeniya.

Acervulis rotundatis vel ovalibus, ad 1.2×0.8 mm., epidermide diu tectis; conidiis ovalibus, $22-30 \times 14-20 \mu$, vel rotundatis, $20-24 \mu$, compressis, nigro-brunneis, pariete tenui, sæpe una acie pallida.

Melanconium fruticolum n. sp.

Acervuli subepidermal, erumpent, 0.1–0.2 mm. diam., circular; conidia globose or slightly ovoid, thick-walled, smooth, fuliginous, 10–12 μ diam. Causing large brown patches on unripe fruits of *Punica granatum* L., Bandarawela, May, 1916; No. 4795 in Herb. Peradeniya.

Acervulis subepidermalibus, erumpentibus, 0·1–0·2 mm. diam., rotundatis; conidiis subglobosis vel subovoideis, episporio crasso, levibus, fuligineis. 10–12 μ diam.

Septogloeum Mappiæ n. sp.

Spots brownish-gray, with a black margin, circular. Acervuli scattered, numerous, circular or linear, up to 0·4 mm. long, 0·2 mm. broad, sometimes branching, white or flesh-coloured, epiphyllous; conidia cylindric, irregularly curved, septate, ends obtuse, hyaline, 60–100 $\times$ 4–6 μ . On living leaves of *Mappia ovata* Miers, Hakgala, October, 1914; No. 4730 in Herb. Peradeniya.

Maculis brunneo-griseis, margine nigro, rotundatis; acervulis sparsis, numerosis, rotundatis vel linearibus, ad 0·4 mm. long., 0·2 mm. lat., interdum ramosis, albis vel carneis, epiphyllis; conidiis cylindricis, curvatis, septatis, obtusis, hyalinis, 60–100 $\times$ 4–6 μ .

Septoglœum Manihotis Zimm.

On *Manihot utilissima* Pohl., Peradeniya, June, 1907.

Septoglœum Arachidis Rac.

On *Arachis hypogæa* L., Peradeniya, April, 1905, &c.

Pestalozzia viticola Cav.

On *Vitis vinifera* L., Jaffna, March, 1907.

Pestalozzia palmarum Cke.

General on coconut and other palms; on tea; on cinnamon, Ambalangoda, July, 1907; on hevea; on *Litsea fuscata* Thw., Hakgala, May, 1912.

HYPHOMYCETÆ.

Mucedinaceæ.

Oospora Aurantii n. sp.

Tufts minute, white, bristly, lax, at first distinct, then confluent. Fertile hyphæ up to 1 mm. long, suberect, diverging, rarely branched, 1·5–4 μ diameter; conidia cylindric,

ends truncate, from $2 \times 1.5 \mu$ – $16 \times 4 \mu$. Causing sodden patches on immature oranges, which then turn yellow; Agra-patna, July, 1915; No. 4760 in Herb. Peradeniya.

Acervulis minutis, albis, laxis, confluentibus; conidiophoris ad 1 mm. long., suberectis, divergentibus, raro ramosis, 1.5 – 4μ diam.; conidiis cylindræis, truncatis, 2×1.5 – $16 \times 4 \mu$.

Oospora grisea n. sp.

Forming loose gray masses; creeping hyphæ 4μ diameter, hyaline, with erect conidiophores, up to 30μ high, 2μ diameter below, tapering upwards, bearing branching chains of conidia at their apices; conidia narrow-oval, ends acute, hyaline, 4 – 7×1.5 – 2μ . On dead patches on coconut leaves attacked by *Pestalozzia*, &c.; No. 4401 in Herb. Peradeniya.

Grisea, laxa; hyphis repentibus 4μ diam., hyalinis; conidiophoris erectis, ad 30μ alt., basi 2μ diam., sursum attenuato; conidiis catenulatis, angusto-ovalibus, acutis, hyalinis, 4 – 7×1.5 – 2μ .

Monilia carbonaria Cooke.

Common on burnt sticks.

Physospora spiralis Penz. & Sacc.

Henaratgoda, October, 1912, &c.

? **Langloisula zeylanica** n. sp.

Effused, irregularly shaped, up to 1.5×0.5 cm.; pale ochraceous, surface minutely innately fibrillose, 0.1 – 0.2 mm. thick, composed of repeatedly dichotomous, yellow hyphæ, about 3μ diameter, rigid, forming a loose network, free ends sharply pointed; containing at the base a layer of globose or ovoid, yellow spores, 22 – 24μ diameter or 22 – 26×16 – 21μ ; spore wall 4 – 6μ thick, ornamented with a network of broad bands, usually interrupted and often broken up into short lines and warts. On dead bark, Hakgala, May, 1913; No. 4580 in Herb. Peradeniya.

Effusa, irregularis, ad 1.5×0.5 cm., pallide ochracea, minute innato-fibrillosa, 0.1 – 0.2 mm. crass.; hyphis repetitèr dichotomis, flavis, 3μ diam., rigidis, laxè intertextis, apicibus

acutis ; sporis globosis, vel ovoideis, flavis, 22-24 μ diam., vel 22-26 $\times$ 16-21 μ ; episporio. 4-6 μ . crass., reticulato, lineis latis, plerumque interruptis, sæpe in verrucis fractis.

Oidium tingitaninum Carter.

On *Citrus* spp. Common.

Oidium Tuckeri Berk.

On *Vitis vinifera* L., Hakgala, September, 1908.

Oidium tabaci Thuem.

On cultivated tobacco. Common.

Oidium quercinum Thuem.

On *Quercus pedunculata* Ehrh., Hakgala, May, 1912.

The following Oidia have been collected, and are recorded here in view of the prevalent opinion that *Oidium* is rare in the Tropics :—

On *Sida mysorensis* W. & A., Peradeniya, December, 1913.

On *Tribulus terrestris* L., Jaffna, November, 1916.

On *Oxalis corniculata* L., Peradeniya, May, 1912.

On *Tropæolum majus* L., Hakgala, September, 1908.

On cultivated Balsam, Mirigama, September, 1907, &c.

On *Limonia alata* W. & A., Peradeniya, March, 1917.

On *Ægle Marmelos* Corr., Colombo, February, 1917.

On *Pisum sativum* L. [*Erysiphe polygoni* (DC.)], Haputale, August, 1913.

On *Tephrosia purpurea* Pers., Peradeniya, April, 1915, &c.

On *Tephrosia villosa* Pers., Teldeniya, August, 1907, &c.

On *Sesbania grandiflora* Pers., Peradeniya, March, 1917.

On *Clitoria ternatea* L., Peradeniya, September, 1907.

On *Tamarindus indica* L., Teldeniya, August, 1907.

On *Phaseolus lunatus* L., Peradeniya, January, 1907.

On *Cassia occidentalis* L., Teldeniya, August, 1907.

On *Cassia Tora* L., Teldeniya, August, 1907.

On *Curcubita* sp., Teldeniya, August, 1907.

On *Sonchus arvensis* L., Peradeniya, January, 1912, &c.

On *Solanum melongena* L., Sudu-ganga, June, 1916.

On *Capsicum annuum* L., Peradeniya, January, 1907, &c.

On *Verbena venosa* Gill. & Hook., Bandarawela, January, 1917.

On *Leucas zeylanica* Br., Bandarawela, January, 1917.

On *Aristolochia indica* L., Peradeniya, March, 1917.

On *Piper Bette* L., Bandarawela, September, 1910.

On *Euphorbia hirta* L., Teldeniya, August, 1907, &c.

On *Phyllanthus reticulatus* Poir., Peradeniya, May, 1916.

On *Jatropha Curcas* L., Peradeniya, January, 1917.

Ovularia aurantii McAlp.

On orange, Hakgala, April, 1914.

Ovularia Bixæ Rac.

On *Bixa orellana* L., Experiment Station, Peradeniya, May, 12, 1905, &c. Generally distributed.

Verticillium attenuatum n. sp.

White. Conidiophores up to 0.5 mm. high, clustered, rigid, straight, tapering gradually, then suddenly towards the apex, up to 14 μ diameter below, with walls 4 μ thick, septate, with septa 8–18 μ apart, tapering suddenly into a thin-walled fertile apex about 80 μ long, which bears horizontal lateral branches in whorls of three, the lower branches again ternately divided; ultimate branchlets flask-shaped, 8–16 μ long, each terminating in two to three minute sterigmata; conidia hyaline, continuous, narrow-oval or subcylindric, ends rather acute, 4–6 $\times$ 1.5 μ . On *Lycoperdon* sp., Hakgala, January, 1914; No. 3937 in Herb. Peradeniya.

Album; conidiophoris ad 0.5 mm. alt., congregatis, rigidis, rectis, leniter dein ad apicem abrupte attenuatis, basi 14 μ diam., pariete 4 μ crass., septatis, loculis 8–18 μ long., parte conidiophora, 80 μ long., pariete tenui, ramis ternateis; conidiis hyalinis, continuis, angusto-ovalibus vel subcylindricis, subacutis, 4–6 $\times$ 1.5 μ .

Verticillium lateritium Berk.

On *Scleroderma* sp., Hakgala, May, 1912.

Cylindroeladium Pithecolobii n. sp.

Spots white, circular, up to 4 mm. diameter. Conidiophores and mycelium hypophyllous, white. Creeping hyphæ.

hyaline, 3 μ diameter. Conidiophores hyaline, up to 160 μ high, 8 μ diameter at the base, septate, dichotomously branched, bearing up to three sterigmata at the apices of the branches or at the septa. Sterigmata sub-oval or fusoid, inequilateral or curved, apex acute, $7-16 \times 3 \mu$. Conidia solitary, cylindrical or slightly fusoid, ends obtuse, one-septate, rarely slightly constricted, hyaline, $36-60 \times 5-7 \mu$.

On living leaves of *Pithecolobium Saman* Benth., which soon fall; Peradeniya, March, 1917; No. 4996 in Herb. Peradeniya.

Maculis albis, rotundatis, ad 4 mm. diam.; conidiophoris et mycelio albis, hypophyllis; hyphis repentibus hyalinis, 3 μ diameter; conidiophoris hyalinis, ad 160 μ alt., basi 8 μ diam., septatis, dichotome furcatis, sterigmatibus apicalibus vel verticillatis; sterigmatibus subovalibus vel fusoides, curvis vel inæquilateralibus, acutis, $7-16 \times 3 \mu$; conidiis hyalinis, solitariis, cylindræis vel subfusoides, obtusis, uniseptatis, raro leniter constrictis, $36-60 \times 5-7 \mu$.

Trichothecium luteum n. sp.

Tufts pulvinate, confluent in sheets for several centimetres, pale buff, conidiophores 4 μ diameter; conidia elliptic or pyriform, lower cell sometimes curved, not constricted at the septum, wall and septum thick (1.5 μ), $16-32 \times 10-14 \mu$. On drying fruits of *Hevea brasiliensis* Muell-Arg., in laboratory, Peradeniya, July, 1916; No. 4818 in Herb. Peradeniya.

Acervulis pulvinatis, confluentibus, luteis; conidiophoris, 4 μ diam.; conidiis ellipticis vel pyriformibus, episporio crasso, uniseptatis, loculo inferiori interdum curvato, $16-32 \times 10-14 \mu$.

Mycogone rufa n. sp.

Forming minute, dark ochraceous, powdery masses, up to 0.25 mm. diameter, scattered, then crowded. Hyphæ stout, hyaline, about 4 μ diameter, creeping or erect; conidia on short side branches, pyriform, thick-walled, upper cell the larger, verrucose, yellow-brown, lower cell hyaline, conical, smooth, not constricted at the septum, $30-36 \times 24-28 \mu$. On decaying fruit stalks of *Musa paradisiaca* L., Peradeniya.

March, 1915; also on decaying coconut stems; No. 4542 in Herb. Peradeniya.

Acervulis minutis, pulverulentis, ochraceis, ad 0.25 mm. diam., sparsis dein confertis; hyphis crassis, hyalinis, circa 4 μ diam., repentibus vel erectis; conidiis lateralibus, pyriformibus, episporio crasso, loculo superiori majore, verrucoso, flavo-brunneo, inferiori hyalino, conico, levi, non constrictis. 30-36 $\times$ 24-26 μ .

Cercospora Theae n. sp.

Spots circular; upper surface zoned light and dark brown and marked with concentric raised ridges; under surface gray-brown with a somewhat translucent green margin. Hyphæ forming a thin white film on the under surface, hyaline, 4-6 μ diameter; conidia cylindric, almost equal, hyaline, three-septate, ends obtuse, 80-120 $\times$ 8 μ . On leaves of tea, Dunsinane, September, 1909; No. 3009 in Herb. Peradeniya.

Maculis rotundatis, supra pallide et fusco-brunneo zonatis, lirellis concentricis ornatis, infra griseo-brunneis, margine viridi subpellucido; hyphis hypophyllis membrana alba intertextis, hyalinis, 4-6 μ diam.; conidiis cylindræis, fere æqualibus, hyalinis, triseptatis, obtusis, 80-120 $\times$ 8 μ .

Dematiaceæ.

Echinobotryum olivaceum n. sp.

Creeping hyphæ 4 μ diameter, with short lateral branches, 4 μ high, which bear two or more flask-shaped or oval sterigmata about 6 μ high, sometimes forming globose heads up to 0.1 mm. diameter; conidia in chains, globose, blackish olivaceous, 3 μ diameter. On dead coconut leaf, December, 1914; No. 4402 in Herb. Peradeniya.

Hyphis repentibus 4 μ diam.; conidiophoris brevibus, lateralibus, 4 μ alt.; basidiis ovalibus vel ampullaceis, 6 μ alt., plerumque paucis, interdum capitibus ad 0.1 mm. diam.; conidiis catenulatis, globosis, nigro-olivaceis, 3 μ diam.

Trichobotrys trechispora n. sp.

Conidiophores erect, crowded, in patches up to 1 cm. long, 5 mm. broad, simple, up to 1.5 mm. high, 10-12 μ diameter

at the base, $8\ \mu$ above, olivaceous, septate, everywhere minutely spinulose; conidia pale olivaceous, oval, $5 \times 3\ \mu$, or spherical, $4\ \mu$ diameter, ornamented with sharp, raised, broken ridges, about $1\ \mu$ high, sometimes radiating, sometimes parallel. On dead wood, Peradeniya, July, 1909; No. 2924 in Herb. Peradeniya.

Conidiophoris erectis, confertis in gregibus ad 1 cm. long., 5 mm. lat., simplicibus, ad 1.5 mm. alt., basi $10\text{--}12\ \mu$ diam.; sursum $8\ \mu$ diam., olivaceis, septatis, minute spinulosis; conidiis pallide olivaceis, ovalibus, $5 \times 3\ \mu$, vel globosis, $4\ \mu$ diam., lirellis acutis, $1\ \mu$ alt., radiantibus vel parallelis, ornatis.

Trichosporium arboreseens Penz. & Sacc.

Hakgala, September, 1914.

Trichosporium fusco-olivaceum n. sp.

Tufts dark olive, widely effused, up to 2 mm. thick; hyphæ olivaceous, $4\ \mu$ diameter, sterile parts regular, fertile parts closely flexuose; conidia rather dark olivaceous, oval or pyriform, $5\text{--}6 \times 3\text{--}4\ \mu$. On dead wood, Hakgala, April, 1914; No. 3959 in Herb. Peradeniya.

Fusco-olivacea, late effusa, ad 2 mm., crass.; hyphis olivaceis, $4\ \mu$ diam., partibus sterilibus regularibus, fertilibus arcute flexuosis; conidiis fusco-olivaceis, ovalibus vel pyriformibus, $5\text{--}6 \times 3\text{--}4\ \mu$.

Cladosporium herbarum var.

On fruits of *Sorghum vulgare* Pers., Colombo, July, 1913; Peradeniya, October, 1914. On *Hypericum* sp. (cult.), Hakgala, April, 1915.

Cladosporium fuliginenum Bon.

On *Tricholoma crassum* B. & Br., Peradeniya, May, 1916.

Cladosporium fulvum Cke.

On leaves of tomato. Common.

Scolecotrichum Musæ Zimm.

On plantain leaves, Peradeniya, February, 1915, &c.

Ceratophorum Albizziæ n. sp.

Mycelium scanty, 4 μ diameter ; conidiophores short, about 12–16 μ long, 6–8 μ diameter ; conidia solitary, pale fuscous, fusoid, usually curved, three-septate, not constricted at the septa, base truncate, apex subconical, with from two to five, simple or branched, septate, tapering ciliæ, up to 50 μ long, 2 μ diameter, arising together or scattered from the apical cell ; dimensions (without ciliæ) 40–66 $\times$ 10–14 μ . On leaves of seedling *Albizzia moluccana* Miq., causing pale brown spots, the leaves subsequently falling off, Ratnapura. December, 1914 ; No. 4359 in Herb. Peradeniya.

Mycelio parvo, 4 μ diam. : conidiophoris brevibus, circa 12–16 μ long., 6–8 μ diam. ; conidiis solitariis, pallide fuscis, fusoides, plerumque curvatis, triseptatis, non constrictis, basi truncatis, apice subconicis, ciliis simplicibus vel ramosis, 2–5, attenuatis, septatis, ad 50 μ long., 2 μ diam., fasciculatis vel sparsis, (sine ciliis) 40–66 $\times$ 10–14 μ .

Helminthosporium Ravenelii B. & C.

On *Sporobolus indicus* Br., Hakgala, September, 1908.

Helminthosporium incurvatum Bern.

On coconut leaves, December, 1914.

Helminthosporium Garciniae n. sp.

Spots red-brown, covering ultimately almost the whole leaf, bearing minute, scattered, black points. Conidiophores clustered, arising from a sclerotoid body beneath the epidermis, on either surface, slightly flexuous, attenuated upwards, septate, fuliginous, 100–120 $\times$ 6 μ ; conidia multiseptate, fuliginous, slightly curved, scarcely constricted, attenuated towards either end, 28–36 $\times$ 4–7 μ . On leaves of *Garcinia Mangostana* L., June, 1912 ; No. 3483 in Herb. Peradeniya.

Maculis rubro-brunneis, magnis, puncta minuta, sparsa, nigra gerentibus ; conidiophoris congregatis, e sclerotio subepidermidale oriundis, amphigenis, subflexuosis, sursum attenuatis, septatis, fuligineis, 100–120 $\times$ 6 μ ; conidiis multiseptatis, fuligineis, leniter curvatis, haud constrictis, utrinque attenuatis, 28–36 $\times$ 4–7 μ .

Brachysporium torulosum Syd.

On plantain leaves, Peradeniya, June, 1916.

Sporodesmium striatum n. sp.

Spores black in mass, in cracks in the cortex, forming heaps up to 0·8 mm. long, 0·3 mm. broad. Spores oval, rounded at either end or attenuated below, blackish olivaceous, clathro-septate, sometimes with one to three stronger, more or less straight, transverse septa, closely covered with raised longitudinal wavy and anastomosing dark ridges, $30-62 \times 26-32 \mu$; conidiophore short, hyaline.

On dead branches of *Hevea brasiliensis* Muell-Arg., Peradeniya, February, 1917: No. 4971 in Herb. Peradeniya.

Conidiis coacervatis nigris, acervulos ad 0·8 mm. long., 0·3 mm. lat. in rimis corticis efformantibus; conidiophoris hyalinis, brevibus: conidiis ovalibus, utrinque rotundatis, vel deorsum attenuatis, nigro-olivaceis, clathro-septatis, interdum septis 1-3 transversis crassis plus minus rectis, lineis elevatis fuscis flexuosis longitudinalibus anastomosantibus dense ornatis, $30-62 \times 26-32 \mu$.

Macrosporium hurculeum E. & M.

On horseradish, Hakgala, April, 1915.

Cercospora Averrhoæ n. sp.

Spots white, with a purple-red margin, circular, up to 4 mm. diameter, acervuli amphigenous; conidiophores clustered, fuliginous, up to 120μ high, 5μ diameter, equal, inflated at the base; conidia hyaline, multiseptate, straight, or rarely curved, base truncate, up to 150μ long, 4μ diameter below, tapering to the apex.

On living leaves of *Averrhoa Carambola* L., which soon fall; Peradeniya, March, 1917; No. 4997 in Herb., Peradeniya.

Maculis albis, margine purpureo-rubris, rotundatis, ad 4 mm. diam.; acervulis amphigenis; conidiophoris fasciculatis, fuliginosis, ad 120μ alt., 5μ diam., æqualibus, basi inflatis; conidiis hyalinis, multiseptatis, rectis, raro curvis, basi truncatis, ad 150μ long., basi 4μ diam., regulariter sursum attenuatis.

Cercospora Pseudarthriæ n. sp.

Spots yellow-brown to brown on the upper surface; mycelium forming a blackish or olivaceous felt on the lower; mycelium pale olivaceous: conidia terminal or lateral, pale olivaceous, variously curved, rounded at the base, apex obtuse, four to six septate, $40-60 \times 5-6 \mu$. On leaves of *Pseudarthria viscida* W. & A. Peradeniya, December, 1913; No. 4096 in Herb. Peradeniya.

Maculis supra flavo-brunneis vel brunneis, infra mycelio nigrescente vel olivaceo tectis; conidiis apicalibus vel lateralibus, pallide olivaceis, varie curvatis, basi rotundato, apice obtuso, 4-6 septatis, $40-60 \times 5-6 \mu$.

Cercospora Calpurniæ n. sp.

Tufts minute, scattered over diffuse yellow areas; conidiophores clustered, up to 80μ high, bent and nodular, pale fuliginous; conidia clavate, almost hyaline, three-septate, $38-50 \times 5-6 \mu$. On leaves of *Calpurnia aurea* Baker, Peradeniya, May, 1916; No. 4799 in Herb. Peradeniya.

Maculis flavis diffusis; acervulis minutis, sparsis, hypophyllis; conidiophoris fasciculatis, ad 80μ alt., flexuosis, nodulosis, pallide fuliginosis; conidiis clavatis, fere hyalinis, triseptatis, $38-50 \times 5-6 \mu$.

Cercospora Cardiospermi n. sp.

Spots white, about 1 mm. diameter; acervuli on either side of the leaf, minute, black, about 30μ diameter; conidiophores $30-60 \mu$ high, 6μ diameter, irregularly bent above, fuscous; conidia greenish-hyaline, truncate at the base, tapering regularly to the apex, $110-160 \mu$ long, 5μ diameter below, 2μ above. On leaves of *Cardiospermum Helicacabum* L., Peradeniya, January, 1915; No. 4454 in Herb. Peradeniya.

Maculis albis, circa 1 mm. diam.; acervulis amphigenis, minutis, nigris, circa 30μ diam.; conidiophoris, $30-60 \mu$ alt., 6μ diam., sursum irregulariter flexuosis, fuscis; conidiis viridi-hyalinis, basi truncatis, ad apicem regulariter attenuatis, $110-160 \mu$ long., basi 5μ diam., apice 2μ diam.

Cercospora Hiptages n. sp.

Spots brown or blackish-brown, sometimes with a yellow margin, up to 1.5 cm. diameter. Acervuli minute, 0.1–0.2 mm. diameter, black, crowded, somewhat circularly arranged. Conidiophores olivaceous, flexuose, slightly nodular, $35\text{--}110 \times 5\text{--}7 \mu$, clustered, septate; conidia almost hyaline, straight or curved, multiseptate, $85\text{--}130 \mu$ long, $4\text{--}5 \mu$ diameter at the base, 2μ at the apex. On leaves of *Hiptage Madablota* Gaertn., Peradeniya, June, 1910; No. 3079 in Herb. Peradeniya.

Maculis brunneis vel nigro-brunneis, interdum margine flavo, ad 1.5 cm. diam.; acervulis minutis, 0.1–0.2 mm. diam., nigris, confertis, subcirculatim dispositis; conidiophoris olivaceis, flexuosis, subnodulosis, septatis, fasciculatis, $35\text{--}110 \times 5\text{--}7 \mu$; conidiis fere hyalinis, rectis vel curvatis, multiseptatis, $85\text{--}130 \mu$ long., basi $4\text{--}5 \mu$ diameter, apice 2μ diam.

Cercospora Sesami Zimm.

On *Sesamum indicum* DC., Peradeniya, November, 1909.

Cercospora beticola Sacc.

On *Beta vulgaris* L., Hakgala, April, 1915.

Cercospora medicaginis Syd.

On lucerne, Hakgala, April, 1915.

Cercospora subsessilis Syd.

On *Melia Azedarach* L., Colombo, July, 1913.

Cercospora Solani Thuem.

On *Solanum nigrum* L., Bandarawela, January, 1917.

Cercospora viticola (Ces.) Sacc.

On *Vitis vinifera* L., Batticaloa, March, 1907.

Cercospora Nicotianæ E. & E.

On tobacco, Teldeniya, August, 1907, &c.

Cercospora Theæ Breda de Haan.

Common on tea.

Dictyosporium zeylanicum n. sp.

Conidiophores short, clustered, conidia forming minute black heaps ; conidia composed of five rows of cells, irregularly ovoid, blackish-green, then opaque, base acute, apex rounded or truncate, $30-34 \times 20-24 \mu$; cells about $4 \times 4 \mu$; pedicel subpersistent, hyaline to olivaceous, up to $30 \times 3 \mu$. On a dead branch, Peradeniya, December, 1914 ; No. 4368 in Herb. Peradeniya.

Conidiophoris brevibus, fasciculatis ; conidiis coacervatis nigris, fusco-viridibus, dein opacis, basi acutis, apice rotundatis vel truncatis, $30-34 \times 20-24 \mu$, quinque lineis loculorum instructis ; loculis, $4 \times 4 \mu$; pedicello subpersistente, hyalino, vel olivaceo, ad $30 \times 3 \mu$.

Cercosporina ricinella (Sacc. & Berl.) Speg.

On leaves of *Ricinus communis* L., Peradeniya, November, 1913.

*Stilbaceæ.***Stilbum villosum** n. sp.

Stalk white or pinkish, 0.8 mm. high, 40μ diameter below, expanding to 0.1 mm. diameter above, apex convex and deep red in outline, tomentose with upwardly directed hyphæ, some of which project above the head ; head red, globose, about 0.1 mm. diameter ; conidia red in mass, hyaline when mounted, narrow-oval, $4-6 \times 2 \mu$. On decaying fruits and corms of *Musa paradisiaca* L., Peradeniya, March, 1915 ; No. 4543 in Herb. Peradeniya.

Stipite albo vel rubescenti, 0.8 mm. alt., basi 40μ diam., sursum expanso ad 0.1 mm. diam., apice convexo, hyphis suberectis, interdum caput superantibus tomentoso ; capite rubro, globoso, circa 0.1 mm. diam. ; conidiis hyalinis, coacervatis rubris, angusto-ovalibus, $4-6 \times 2 \mu$.

Stilbum candidulum Penz. & Sacc.

On leaves of *Amomum*, Hakgala, April, 1915.

Isaria lanuginosa n. sp.

Gregarious ; total height up to 12 mm. ; stalk tawny brown becoming black, up to 8 mm. high, 0.4 mm. diameter at the

base, equal or attenuated upwards, minutely fibrillose; head irregularly ovoid, woolly, grayish-white, up to 6 mm. high, 2 mm. diameter, forming a tangled mass of hyphæ and spores; conidia oval, ends acute, hyaline, $2-3 \times 1-1.5 \mu$.

On dead twigs, Peradeniya, December, 1913; No. 4097 in Herb. Peradeniya.

Gregaria, ad 12 mm. alt.; stipite fulvo-brunneo, nigrescenti, ad 8 mm. alt., basi 0.4 mm., æquali vel sursum attenuato, minute fibrilloso; capite irregulariter ovoideo, lanuginoso, griseo-albo, ad 6 mm. alt., 2 mm. diam.; conidiis ovalibus, acutis, hyalinis, $2-3 \times 1-1.5 \mu$.

Arthrosporium tenue Penz. & Sacc.

Peradeniya, December, 1914.

Sporocybe compacta n. sp.

Conidiophores scattered or clustered, black, up to 1.6 mm. high. Stalk longitudinally striate, often twisted, equal, 50-150 μ diameter. Head compact, subglobose or ovoid, 0.1-0.25 mm. diameter. Conidia narrow-oval, black in mass, very pale fuliginous, almost hyaline, $4-6 \times 2.5-3 \mu$.

On dead branches of *Hevea brasiliensis* Muell-Arg., Peradeniya, February, 1917; No. 4970 in Herb. Peradeniya.

Synnematis sparsis vel congregatis, nigris, ad 1.6 mm. alt.; stipitibus longitudinaliter striatis, sæpe tortis, æqualibus, 50-150 μ diam.; capitibus subglobosis vel ovalibus, 0.1-0.25 mm. diam.; conidiis angusto-ovalibus, coacervatis nigris, pallidissime fuligineis, fere hyalinis, $4-6 \times 2.5-3 \mu$.

Sporocybe favicola n. sp.

Stalk up to 2.5 mm. high, 0.1 mm. diameter at the base, 0.06 mm. diameter at the apex, rigid, black; head globose, 0.3 mm. diameter, black, composed of branching conidiophores, ultimate branches hyaline and about 1 μ diameter, bearing conidia terminally and laterally; conidia narrow oval, ends acute, fuscous, with a pale line down the middle, $4-5 \times 2 \mu$. On a bee's comb, Hakgala, May, 1913; No. 4406 in Herb. Peradeniya.

Stipite ad 2.5 mm. alt., basi 0.1 mm. diam., apice 0.06 mm. diam., rigido, nigro; capite globoso, 0.3 mm. diam.,

nigro, conidiophoris ramosis composito, ramis ultimis hyalinis, $1\ \mu$ diam., conidiis apicalibus et lateralibus; conidiis angustovalibus, acutis, fuscis, medio linea pallida longitudinali ornatis, $4-5 \times 2\ \mu$.

Arthrobotryum Glochidii n. sp.

Spots reddish-purple, becoming black. Synnemata hypophyllous, black-brown, up to 0.4 mm. high, scattered, $30\ \mu$ diameter below, attenuated upwards to $12\ \mu$ diameter above, or attenuated to the middle and expanding upwards to 0.1 mm. diameter, terminating in a brush of clavate conidiophores; conidia fusoid, usually strongly attenuated below, straight or curved, pale brown, three-septate, not constricted, $30-44 \times 8\ \mu$. On leaves of *Glochidion coriaceum* Thw., Hakgala, May, 1912; No. 4434 in Herb. Peradeniya.

Maculis rubro-purpureis, nigrescentibus; synnematis hypophyllis, nigro-brunneis, ad 0.4 mm. alt., sparsis, basi $30\ \mu$ diam., sursum attenuatis $12\ \mu$ diam., vel ad medium attenuatis, sursum inflatis ad 0.1 mm. diam., conidiophoris clavatis fasciculatis coronatis; conidiis fusoideis, plerumque valde deorsum attenuatis, rectis vel curvatis, pallide brunneis, triseptatis, $30-44 \times 8\ \mu$.

Tuberculariaceæ.

Tubercularia Hibisci n. sp.

Spots circular, arid, brownish-white, sometimes concentrically ridged, up to 5 mm. diameter, with a purple-red, raised margin. Sporodochia hypophyllous, pinkish-white, about 0.25 mm. diameter, subhemispherical, somewhat contracted below; conidia narrow-oval, ends acute, $5-8 \times 1.5-2\ \mu$. On living leaves of *Hibiscus Sabdariffa* L., Peradeniya, January, 1915; No. 4475 in Herb. Peradeniya.

Maculis rotundatis, aridis, brunneo-albis, interdum lirellis concentricis notatis, ad 5 mm. diam., margine purpureo-rubro incrassato; sporodochiis hypophyllis, rubescentibus, circa 0.25 mm. diam., subhemisphericis, leniter deorsum constrictis; conidiis angustovalibus, acutis, $5-8 \times 1.5-2\ \mu$.

Chætospermum gelatinosum n. sp.

Sporodochia subgelatinous, cylindric, up to 0.6 mm. high, 0.4 mm. diameter, base immersed; outer layers composed of parallel hyphæ, 3 μ diameter, which become gelatinous; basidia simple, 30 μ high, 3 μ diameter, conidia terminal; paraphyses up to 80 μ long, 2 μ diameter, slightly thickened at the apex; conidia oval, inequilateral, hyaline, contents granular, $36-44 \times 16-21 \mu$, wall 1.5 μ thick, with a tuft of 6 to 12 filaments, up to 80 μ long, 1 μ diameter, at each end, and short filaments up to 10 μ long, or capitate appendages up to 4 μ long, along the more convex side of the conidium. On dead twigs, Hakgala, September, 1908; No. 3004 in Herb. Peradeniya.

Sporodochiis subgelatinosis cylindraceis, ad 0.6 mm. alt., 0.4 mm. diam., basi immersis, exteriore hyphis parallelis, 3 μ diam., tandem gelatinosis, instructis; basidiis simplicibus, 30 μ alt., 3 μ diam., conidiis apicalibus; paraphysibus ad 80 μ long., 2 μ diam., sursum subincrassatis; conidiis ovalibus, inequilateralibus, hyalinis, plasmate granuloso, $36-44 \times 16-21 \mu$, pariete 1.5 μ crasso, utroque apice filamentis 6-12, ad 80 μ long., 1 μ diam., convexo latere filamentis brevibus ad 10 μ long., vel capitatis ad 4 μ long., ornatis.

Tuberculina persicina (Ditm.) Sacc.

On *Ipomæa biloba* Forsk., Bentota, April, 1909.

Patellina rosea n. sp.

Sporodochia circular or orbicular, often sinuous, up to 1 mm. diameter, frequently clustered; excipulum white, tomentose at the margin; conidia, in mass, red when moist, then pink, hyaline when mounted, oval, slightly apiculate, $4-5 \times 2.5 \mu$; conidiophores about $35 \times 2 \mu$. On bark of dead *Castilleja* sp., Henaratgoda, December, 1911; No. 3264 in Herb. Peradeniya. Also on dead *Hevea brasiliensis*, Peradeniya, July, 1916.

Sporodochiis rotundatis vel orbicularibus, interdum sinuosis, ad 1 mm. diam., sæpe congregatis; excipulo albo, margine tomentoso; conidiis hyalinis, coacervatis rubris, ovalibus, subapiculatis, $4-5 \times 2.5 \mu$; conidiophoris circa $35 \times 2 \mu$.

Fusarium epithele McAlp.

On orange, Weyweltalawa, March, 1914.

Fusarium orchidis n. sp.

Spots oval, about 1.5×1 cm., black with a green centre. Acervuli scattered over the centre of the spot, white or pinkish, lax, minute, up to 0.1 mm. diameter; conidia falcate, ends equally curved, three-septate, $24-32 \times 4 \mu$. On leaves of cultivated orchid, Hindugala, May, 1916; No. 4798 in Herb. Peradeniya.

Maculis ovalibus, circa 1.5×1 cm., nigris, centro viridi; acervulis sparsis, albidis vel carneis, laxis, minutis, ad 0.1 mm. diam.; conidiis falcatis, utrinque similiter curvatis, trisep-tatis, $24-32 \times 4 \mu$.

Fusarium uredinicola n. sp.

Acervuli white, minute; conidia falcate, ends obtuse, three-septate, $36-46 \times 4 \mu$. On *Uredo Microglossæ* Petch on leaves of *Microglossa zeylanica* Clarke, Hakgala, May, 1913; No. 4731 in Herb. Peradeniya.

Acervulis, albis, minutis; conidiis falcatis, obtusis, trisep-tatis, $36-46 \times 4 \mu$.

Cerebella Ischæmi n. sp.

Stromata circular or elliptic in outline, flattened pulvinate, up to 3×1 mm.; conidia in subglobose or ovoid clusters, $14-16 \times 12-16 \mu$, black-brown; single conidia $7-10 \mu$ diameter, minutely warted. On *Ischæmum ciliare* Retz, Hakgala, May, 1912; No. 4435 in Herb. Peradeniya.

Stromatibus rotundatis vel ellipticis, depresso-pulvinatis, ad 3×1 mm.; conidiis, $7-10 \mu$ diam., minute verrucosis, nigro-brunneis, in racemis subglobosis vel ovoideis, $14-16 \times 12-16 \mu$, conglobatis.

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